

TEST REPORT

Job No. 2406B2365SHA

Date: Jul. 31, 2024

REPORT NO. 2406B2365SHA-001

TEST OF ONE LED Fixed luminaire
MODEL NO. SL04

RENDERED TO
STERLING LIGHTING LLC
116 Maplewood St DANVILLE VA 24540, USA

TEST: Electrical and Photometric as required to the IESNA LM-79 test standard,,
IN SITU TEMPERATURE MEASUREMENT TEST

LABORATORY NOTE: The laboratory that conducted the testing detailed in this report has been
Qualified, Verified, and Recognized for LM-79 Testing for ENERGY STAR
for Luminaires by NVLAP program.

AUTHORIZATION: The testing performed was authorized by signed quote number
QTX240626065.

STANDARDS USED: The following American National Standards or Illuminating Engineering
Society of North America Test Guides were used in part or totally to test
each specimen:
NEMA ANSLG C78.377: 2008 Specifications of the Chromaticity of Solid State Lighting Products
IESNA LM-79: 2008 Approved Method for the Electrical and Photometric Measurements
of Solid-State Lighting Products
UL 1598:2021 Ed.5+R:18 Luminaires
June 2021;
IES TM-21-11+ A1:2014 Projecting Long Term Lumen Maintenance of LED Light Sources
IES TM-30-18 IES Method for Evaluating Light Source Color Rendition

DESCRIPTION OF SAMPLE: The client submitted One sample of model SL04. The sample was received
by Intertek on Jul. 11, 2024, in undamaged condition, and one sample was
tested as received. The sample designation was 0240711-15-001.

DATES OF TESTS: 27-Jun-2024~5-Jul-2024

ISSUED BY: Intertek Testing Services Shanghai

TEST LOCATION: 7 floor, No.51, 1089 Qinzhou Road (North), Shanghai, China 200233

Note: This report cannot be used by the clients to claim product certification, approval, or endorsement
by NVLAP, NIST, or any agency of the U.S. Government. when determining the test conclusion, the
Measurement Uncertainty of test has been considered according to Accuracy Method stated in IEC
Guide 115.

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SUMMARY

Test Condition: 15V 60Hz for SL04

Setting: 1 (Max light output)

Criteria	Result
Total Lumen Output (lm)	464.555
Total Power(W)	5.8529
Lamp Luminaire Efficacy (lm/W)	79.37
Power Factor	0.7103
Field Angle (°)	128.8
Correlated Color Temperature (CCT)	3157
Color Rendering Index (CRI)	98
Color Rendering Index (R ₉)	99
Fidelity Index (R _f)	97
Gamut Index (R _g)	102
Chromaticity Coordinate (x)	0.4273
Chromaticity Coordinate (y)	0.4027
Chromaticity Coordinate (u')	0.2450
Chromaticity Coordinate (v')	0.5194
In-situ Case Temperature of LED/COB (°C)	57.3
Drive Current of LED/COB (mA)	63
Projection Life Time, Reported L70 (hours)	>54000

Test Condition: 15V 60Hz for SL04

Setting: 2 (Medium light output)

Criteria	Result
Total Lumen Output (lm)	362.5
Total Power(W)	4.3237
Lamp Luminaire Efficacy (lm/W)	83.84
Power Factor	0.6983
Correlated Color Temperature (CCT)	3165
Color Rendering Index (CRI)	98
Color Rendering Index (R ₉)	99
Fidelity Index (R _f)	97
Gamut Index (R _g)	101
Chromaticity Coordinate (x)	0.4271
Chromaticity Coordinate (y)	0.4031
Chromaticity Coordinate (u')	0.2447
Chromaticity Coordinate (v')	0.5195

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SUMMARY (Cont'd)

Test Condition: 15V 60Hz for SL04

Setting: 3 (Medium light output)

Criteria	Result
Total Lumen Output (lm)	284.493
Total Power(W)	3.2714
Lamp Luminaire Efficacy (lm/W)	86.96
Power Factor	0.6783
Correlated Color Temperature (CCT)	3156
Color Rendering Index (CRI)	98
Color Rendering Index (R ₉)	99
Fidelity Index (R _f)	97
Gamut Index (R _g)	101
Chromaticity Coordinate (x)	0.4276
Chromaticity Coordinate (y)	0.4031
Chromaticity Coordinate (u')	0.2450
Chromaticity Coordinate (v')	0.5196

Test Condition: 15V 60Hz for SL04

Setting: 4 (Medium light output)

Criteria	Result
Total Lumen Output (lm)	210.141
Total Power(W)	2.3691
Lamp Luminaire Efficacy (lm/W)	88.70
Power Factor	0.6783
Correlated Color Temperature (CCT)	3150
Color Rendering Index (CRI)	98
Color Rendering Index (R ₉)	98
Fidelity Index (R _f)	97
Gamut Index (R _g)	101
Chromaticity Coordinate (x)	0.4279
Chromaticity Coordinate (y)	0.4030
Chromaticity Coordinate (u')	0.2452
Chromaticity Coordinate (v')	0.5196

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SUMMARY (Cont'd)

Test Condition: 15V 60Hz for SL04

Setting: 5 (Min light output)

Criteria	Result
Total Lumen Output (lm)	133.225
Total Power(W)	1.5467
Lamp Luminaire Efficacy (lm/W)	86.13
Power Factor	0.6462
Correlated Color Temperature (CCT)	3146
Color Rendering Index (CRI)	98
Color Rendering Index (R ₉)	96
Fidelity Index (R _f)	97
Gamut Index (R _g)	101
Chromaticity Coordinate (x)	0.4280
Chromaticity Coordinate (y)	0.4028
Chromaticity Coordinate (u')	0.2453
Chromaticity Coordinate (v')	0.5196

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EQUIPMENT LIST

Equipment Used	Model Number	Control Number
Fluke Temperature Meter	52	EC2357
Everfine- DC Power Supply	WY12010	EC4753-7
Everfine- AC power source for Integrating Sphere System	VPS1010 PWM	EC4760-12
Everfine - AC power source for Goniophotometer System	VPS1060 PWM	EC4753-8
Two meter integrating sphere unit	Everfine – 2M	EC4760
Everfine - Digital Power Meter	PF2010A	EC4760-10
YOKOGAWA - Digital Power Meter	WT210	EC4553
Everfine – Goniophotometer	Go-R5000	EC4753
Draught-proof enclosure	N/A	EC2201
Agilent - Data Acquisition Unit	34970A	EC2043
QINGZHI - Power Meter	8770A	EC2652
YOKOGAWA - Digital Power Meter	WT-210	EC4553

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TEST METHOD

Seasoning in Sample Orientation – LED Products

No seasoning was performed in accordance with IESNA LM-79

Light Distribution and Output Measurements

Light Distribution and total light output (luminous flux) were measured using a Go-R5000 Type-C Rotating Mirror Goniophotometer. Temperature 25°C and relative humidity of 60% was measured at a position in the testing laboratory.

The lamp rotates only around the fixed vertical axle in the prescribed burning position. The lamp and mirror permit the measurement of luminous intensity at the direction of any horizontal or vertical angle without tilting the lamp. The lamp was allowed to stabilize before measurements were made.

Chromaticity Measurements

Chromaticity was measured using a 2 meters integrating sphere spectral lamp measurement system. Temperature was measured at a position inside the sphere shielded from direct light. Relative humidity of 65% was measured at a position in the testing laboratory.

Spectral radiant flux measurements were made using spectroradiometer attached to the detector port of the integrating sphere. Each lamp was allowed to stabilize before measurements were made. The calibration of the integrating sphere spectroradiometer system is by the reference/standard lamps which are traceable to National Institute of Metrology P.R. CHINA. Lamp efficacy (lumens per watt) for each lamp model was then computed based on the luminous flux result. Electrical measurements including voltage, power and power factor were measured using YOKOGAWA - Digital Power Meter., model WT210.

Standard lamp used:

Model: Labsphere SCL-1400

Current: 2.679A

Temperature Measurement Test

The sample was operated at 25±5°C until constant temperatures were obtained. A temperature was considered constant if sample was operating for at least three hours and upon three successive readings-taken at 15 minutes intervals- were within one degree and were not rising.

Thermocouples were attached at locations described in the results by means of epoxy.

Driver current Measurement Test

During the temperature measurement test, measure the forward current for each LED package/array/module.

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RESULTS OF TESTS

Test Condition: 15V 60Hz for SL04

Setting: 1 (Max light output)

Total operation burning time: 70 min

Stabilization time: 60 min

Photometric Measurements at 25°C

Intertek Sample No.	Base Orientation	Correlated Color Temperature (K)	CRI	CIE 31' Chromaticity Coordinate (x)	CIE 31' Chromaticity Coordinate (y)	CIE 76' Chromaticity Coordinate (u')	CIE 76' Chromaticity Coordinate (v')
SL04							
0240711-15-001	N/A	3157	98	0.4273	0.4027	0.2450	0.5194

Photometric and Electrical Measurements at 25°C

Intertek Sample No.	Base Orientation	Input Voltage (Vac)	Input Current (A)	Lamp Input Power (Watts)	Input Power Factor	Absolute Luminous Flux (Lumens)	Lumen Efficacy (Lumens Per Watt)
SL04							
0240711-15-001	N/A	15.0	0.5486	5.8529	0.7103	464.555	79.37

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SL04		
0-30	163.192	35.13
0-40	264.057	56.84
0-60	419.477	90.30
0-90	464.527	100.00
0-180	464.555	100.00

Beam Angle

	Horizontal Spread (°)	Vertical Spread (°)
SL04		
Beam (50%)	94.6	109.7
Beam Angle	102.1	

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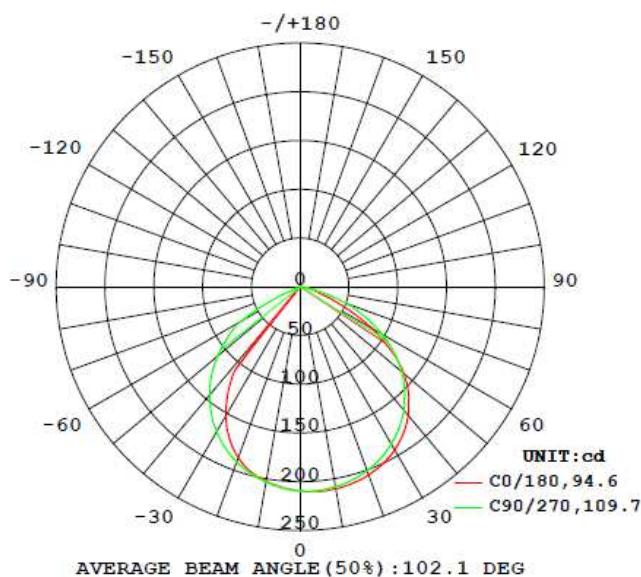
RESULTS OF TESTS (cont'd)

Intensity (Candlepower) Summary at 25°C – Candelas

Test Condition: 15V 60Hz for SL04

Setting: 1 (Max light output)

G \ C(°)	0	22.5	45	67.5	90
0	209.36	209.36	209.36	209.36	209.36
5	210.59	210.91	210.78	210.45	209.60
10	210.14	210.73	210.34	209.61	208.12
15	208.43	209.27	208.79	207.30	205.19
20	205.23	206.36	205.74	203.62	200.58
25	200.23	201.55	200.95	198.34	194.30
30	193.31	194.54	194.16	191.53	186.40
35	183.91	185.01	185.11	182.61	176.75
40	172.04	173.13	173.43	171.60	165.11
45	157.27	158.00	159.20	158.12	151.34
50	138.57	137.89	141.48	142.15	135.71
55	113.60	110.94	118.43	123.55	117.39
60	83.38	79.79	88.86	101.07	96.29
65	51.91	47.78	56.86	73.26	73.27
70	26.59	25.65	28.68	43.43	51.30
75	16.26	15.11	16.35	19.31	25.56
80	2.17	1.59	2.48	6.72	5.68
85	0.38	0.39	0.34	0.20	0.05
90	0.23	0.24	0.19	0.04	0.00



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RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL04

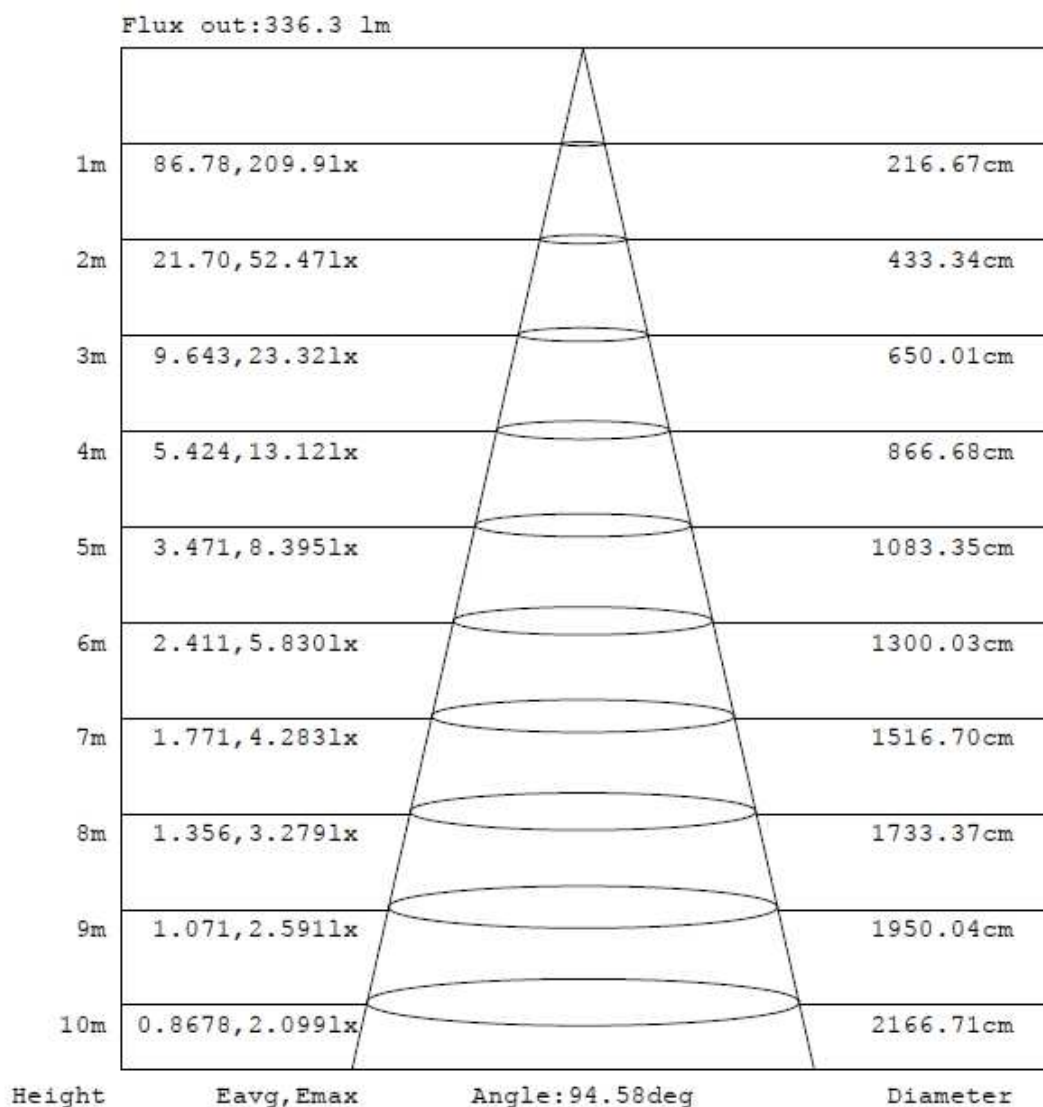
Setting: 1 (Max light output)

Illumination Plots

Model No.: SL04

Mount Height: 10 m

Illuminance - Cone of Light



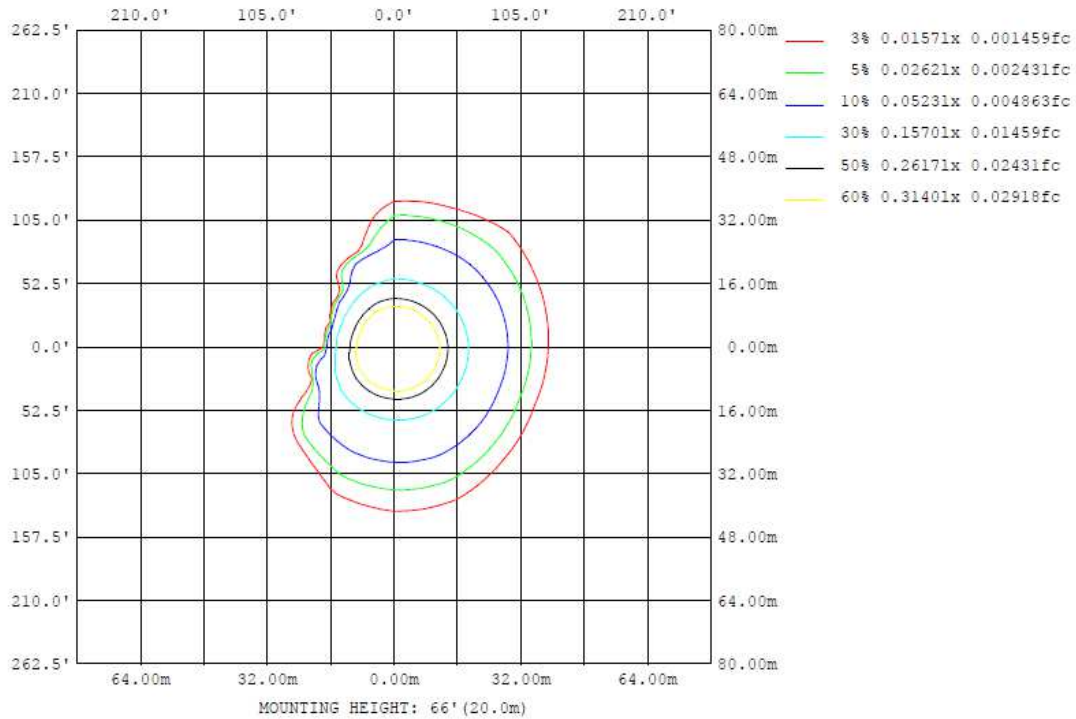
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL04
Setting: 1 (Max light output)

Model No.: SL04
Mount Height: 20 m
Isoillumination Plot



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RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL04

Setting: 1 (Max light output)

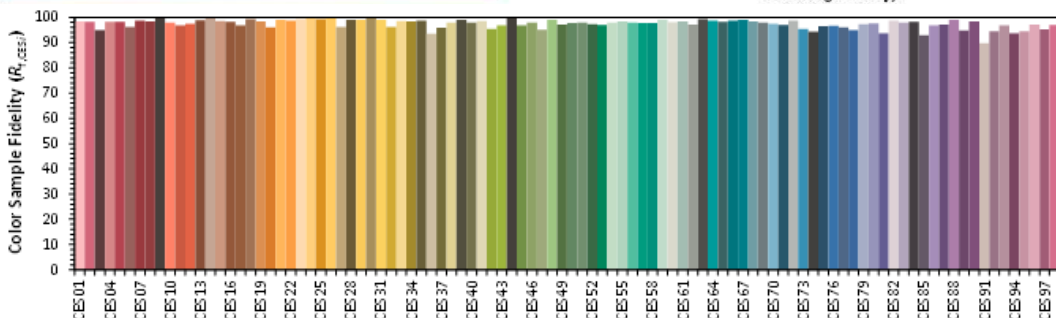
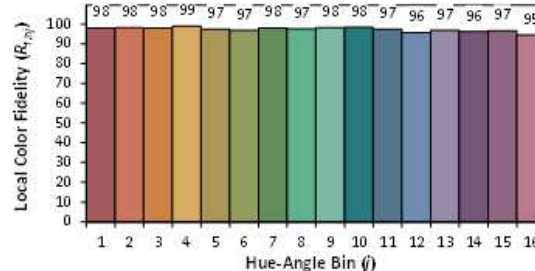
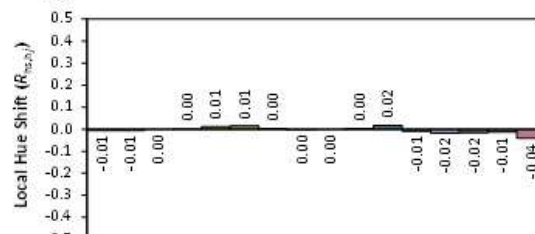
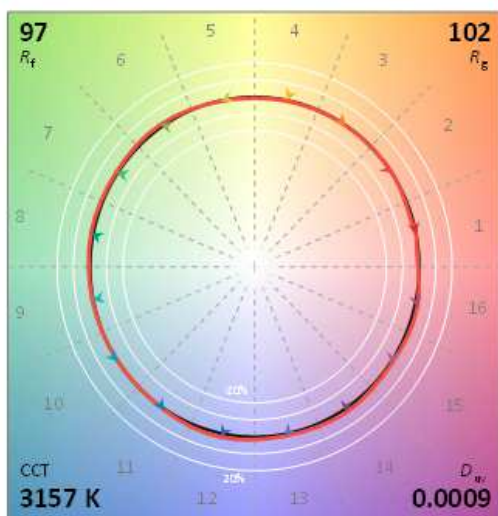
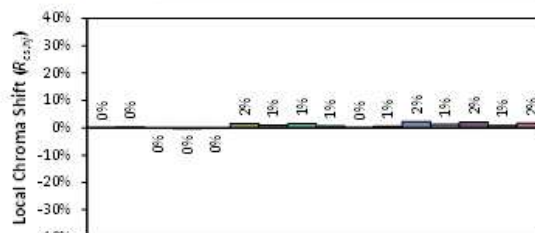
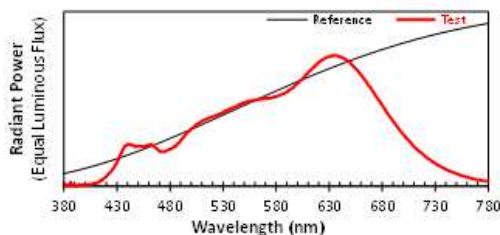
ANSI/IES TM-30-18 Color Rendition Report

Source: LED

Manufacturer: STERLING LIGHTING LLC

Date: 7/5/2024

Model: SL04



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.4273

y 0.4027

u' 0.2450

v' 0.5194

CIE 13.3-1995

(CRI)

R_a 98

R_g 99

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RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL04

Setting: 2 (Medium light output)

Total operation burning time: 70 min

Stabilization time: 60 min

Photometric Measurements at 25°C

Intertek Sample No.	Base Orientation	Correlated Color Temperature (K)	CRI	CIE 31' Chromaticity Coordinate (x)	CIE 31' Chromaticity Coordinate (y)	CIE 76' Chromaticity Coordinate (u')	CIE 76' Chromaticity Coordinate (v')
SL04							
0240711-15-001	N/A	3165	98	0.4271	0.4031	0.2447	0.5195

Photometric and Electrical Measurements at 25°C

Intertek Sample No.	Base Orientation	Input Voltage (Vac)	Input Current (A)	Lamp Input Power (Watts)	Input Power Factor	Absolute Luminous Flux (Lumens)	Lumen Efficacy (Lumens Per Watt)
SL04							
0240711-15-001	N/A	15.0	0.4109	4.3237	0.6983	362.5	83.84

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SL04		
0-30	127.721	35.23
0-40	207.135	57.14
0-60	328.761	90.69
0-90	362.485	100.00
0-180	362.499	100.00

Beam Angle

	Horizontal Spread (°)	Vertical Spread (°)
SL04		
Beam (50%)	94.4	109.5
Beam Angle	101.9	

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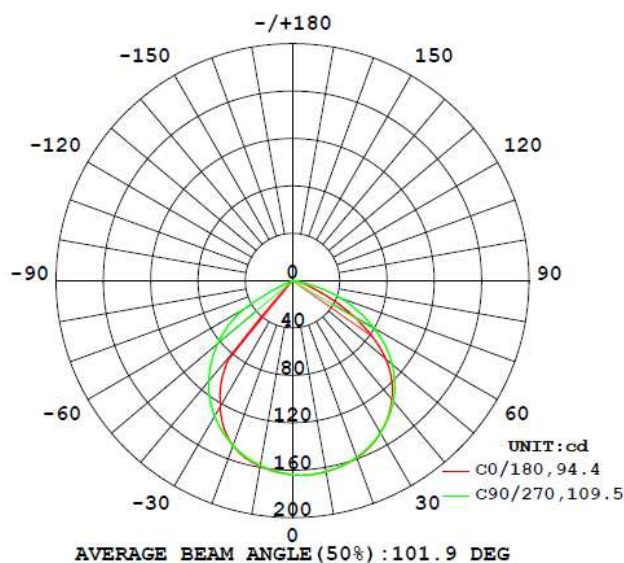
RESULTS OF TESTS (cont'd)

Intensity (Candlepower) Summary at 25°C – Candelas

Test Condition: 15V 60Hz for SL04

Setting: 2 (Medium light output)

G \ C(°)	0	22.5	45	67.5	90
0	163.66	163.66	163.66	163.66	163.66
5	164.28	164.67	164.85	164.69	164.33
10	163.56	164.38	164.58	164.27	163.59
15	161.86	163.08	163.30	162.71	161.62
20	159.03	160.63	160.89	160.08	158.48
25	154.69	156.59	156.99	156.15	154.09
30	148.63	150.86	151.43	150.83	148.39
35	140.59	143.04	144.14	143.98	141.21
40	130.78	133.31	134.97	135.44	132.55
45	118.61	120.84	123.65	125.12	122.10
50	103.13	104.17	109.37	112.81	109.98
55	82.54	82.29	90.50	98.03	95.89
60	58.62	57.87	66.93	80.03	79.49
65	35.03	33.65	42.37	57.82	61.52
70	17.95	17.86	22.13	34.41	43.18
75	9.62	8.51	11.78	15.57	23.36
80	0.53	0.50	1.69	5.67	6.98
85	0.24	0.27	0.25	0.15	0.27
90	0.13	0.15	0.13	0.03	0.00



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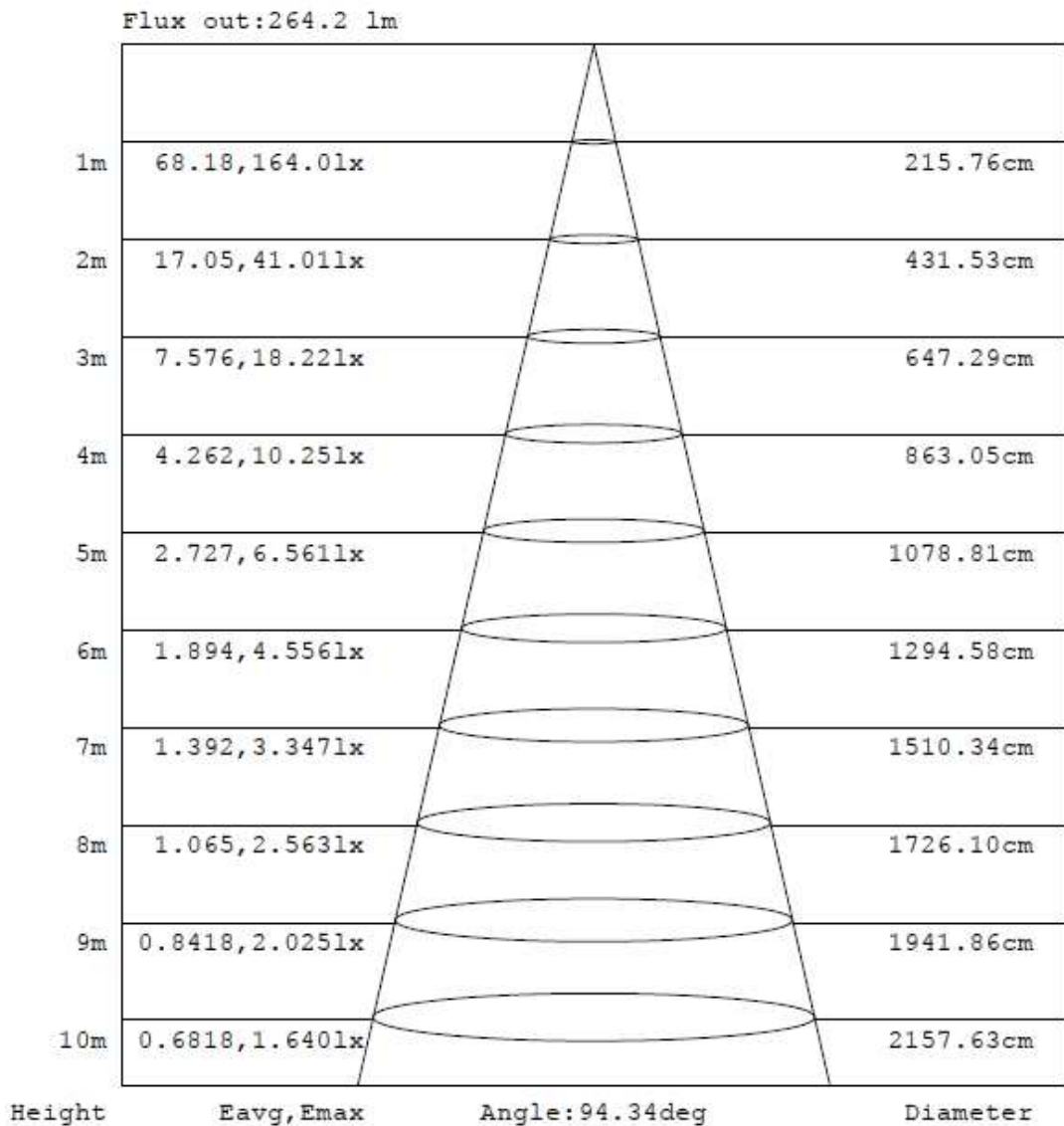
RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL04
Setting: 2 (Medium light output)

Illumination Plots

Model No.: SL04
 Mount Height: 10 m

Illuminance - Cone of Light



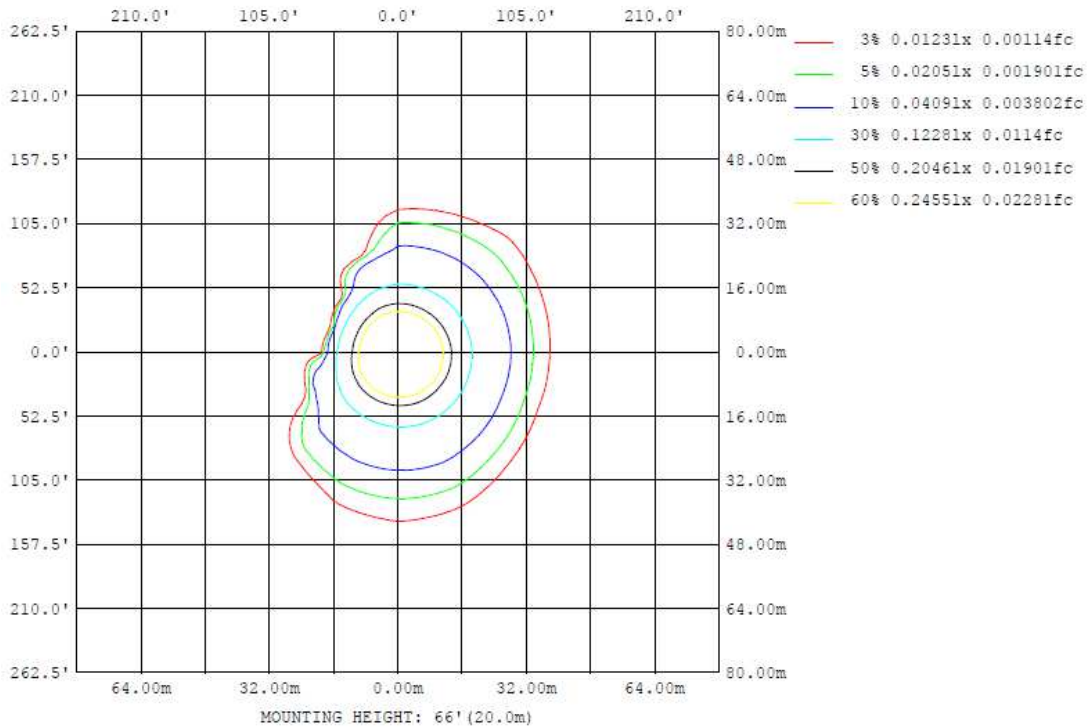
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL04
Setting: 2 (Medium light output)

Model No.: SL04
Mount Height: 20 m
Isoillumination Plot



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RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL04
Setting: 2 (Medium light output)

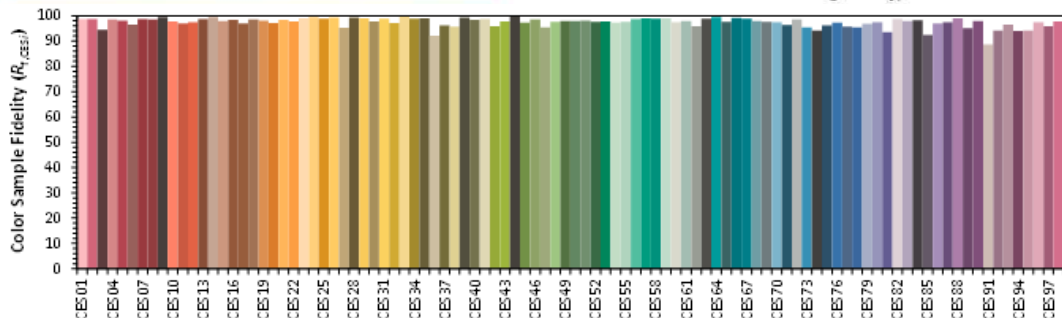
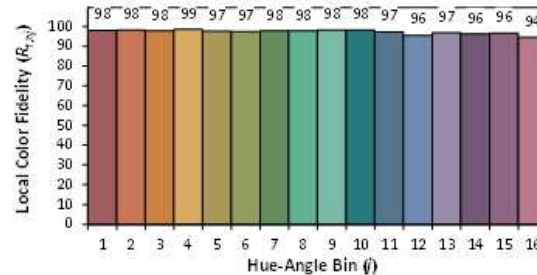
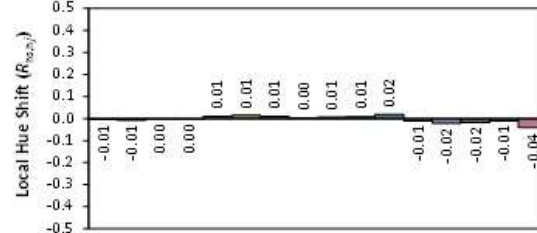
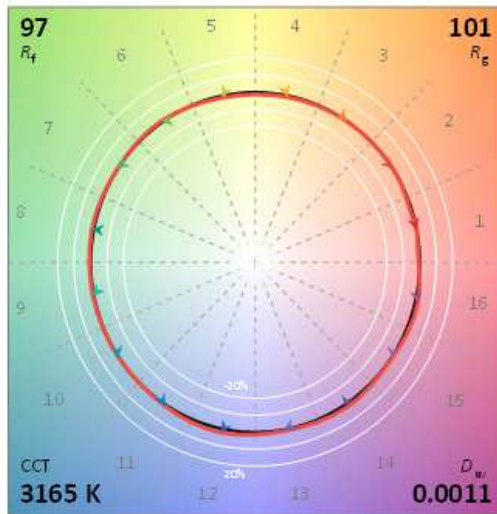
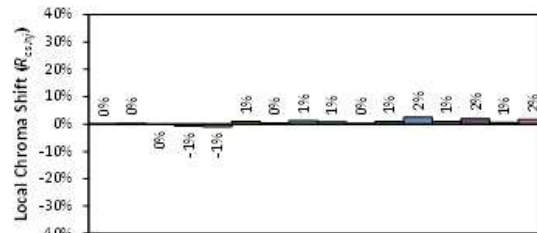
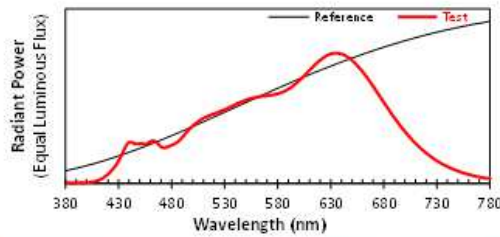
ANSI/IES TM-30-18 Color Rendition Report

Source: LED

Manufacturer: STERLING LIGHTING LLC

Date: 7/5/2024

Model: SL04



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.4271

y 0.4031

u' 0.2447

v' 0.5195

CIE 13.3-1995
(CRI)

R_a 98

R_g 99

***** End of Page *****

RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL04

Setting: 3 (Medium light output)

Total operation burning time: 70 min

Stabilization time: 60 min

Photometric Measurements at 25°C

Intertek Sample No.	Base Orientation	Correlated Color Temperature (K)	CRI	CIE 31' Chromaticity Coordinate (x)	CIE 31' Chromaticity Coordinate (y)	CIE 76' Chromaticity Coordinate (u')	CIE 76' Chromaticity Coordinate (v')
SL04							
0240711-15-001	N/A	3156	98	0.4276	0.4031	0.2450	0.5196

Photometric and Electrical Measurements at 25°C

Intertek Sample No.	Base Orientation	Input Voltage (Vac)	Input Current (A)	Lamp Input Power (Watts)	Input Power Factor	Absolute Luminous Flux (Lumens)	Lumen Efficacy (Lumens Per Watt)
SL04							
0240711-15-001	N/A	15.0	0.3139	3.2714	0.6783	284.493	86.96

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SL04		
0-30	100.111	35.19
0-40	162.368	57.07
0-60	258.140	90.74
0-90	284.485	100.00
0-180	284.493	100.00

Beam Angle

	Horizontal Spread (°)	Vertical Spread (°)
SL04		
Beam (50%)	94.5	109.6
Beam Angle	102.0	

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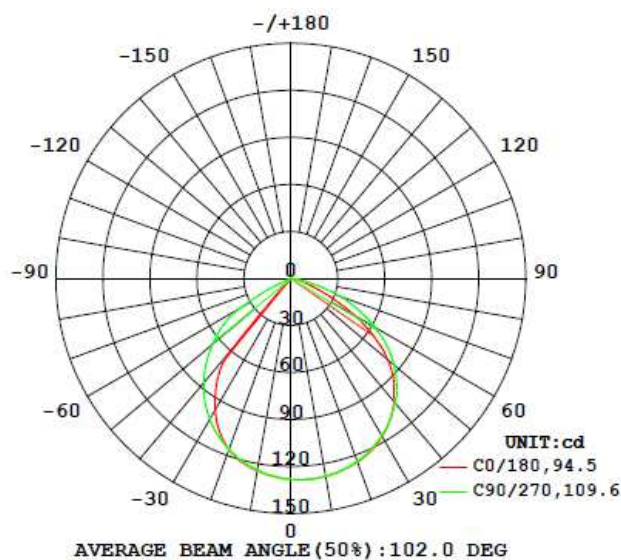
RESULTS OF TESTS (cont'd)

Intensity (Candlepower) Summary at 25°C – Candelas

Test Condition: 15V 60Hz for SL04

Setting: 3 (Medium light output)

G \ C(°)	0	22.5	45	67.5	90
0	128.15	128.15	128.15	128.15	128.15
5	128.59	128.88	129.03	128.89	128.64
10	128.06	128.64	128.85	128.64	128.08
15	126.76	127.67	127.87	127.40	126.59
20	124.55	125.65	125.97	125.39	124.09
25	121.20	122.60	122.96	122.31	120.60
30	116.53	118.02	118.67	118.12	116.01
35	110.29	111.90	112.92	112.72	110.33
40	102.62	104.31	105.72	105.95	103.57
45	93.05	94.42	96.75	97.74	95.46
50	80.91	81.33	85.40	87.98	86.02
55	64.84	64.34	70.47	76.44	74.89
60	46.25	45.24	52.20	62.32	61.85
65	27.67	26.66	33.00	44.88	47.78
70	14.02	13.85	16.77	26.57	33.70
75	7.63	6.60	9.18	11.99	18.03
80	0.40	0.37	1.21	4.32	5.23
85	0.17	0.19	0.18	0.10	0.10
90	0.08	0.10	0.08	0.01	0.00



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RESULTS OF TESTS (cont'd)

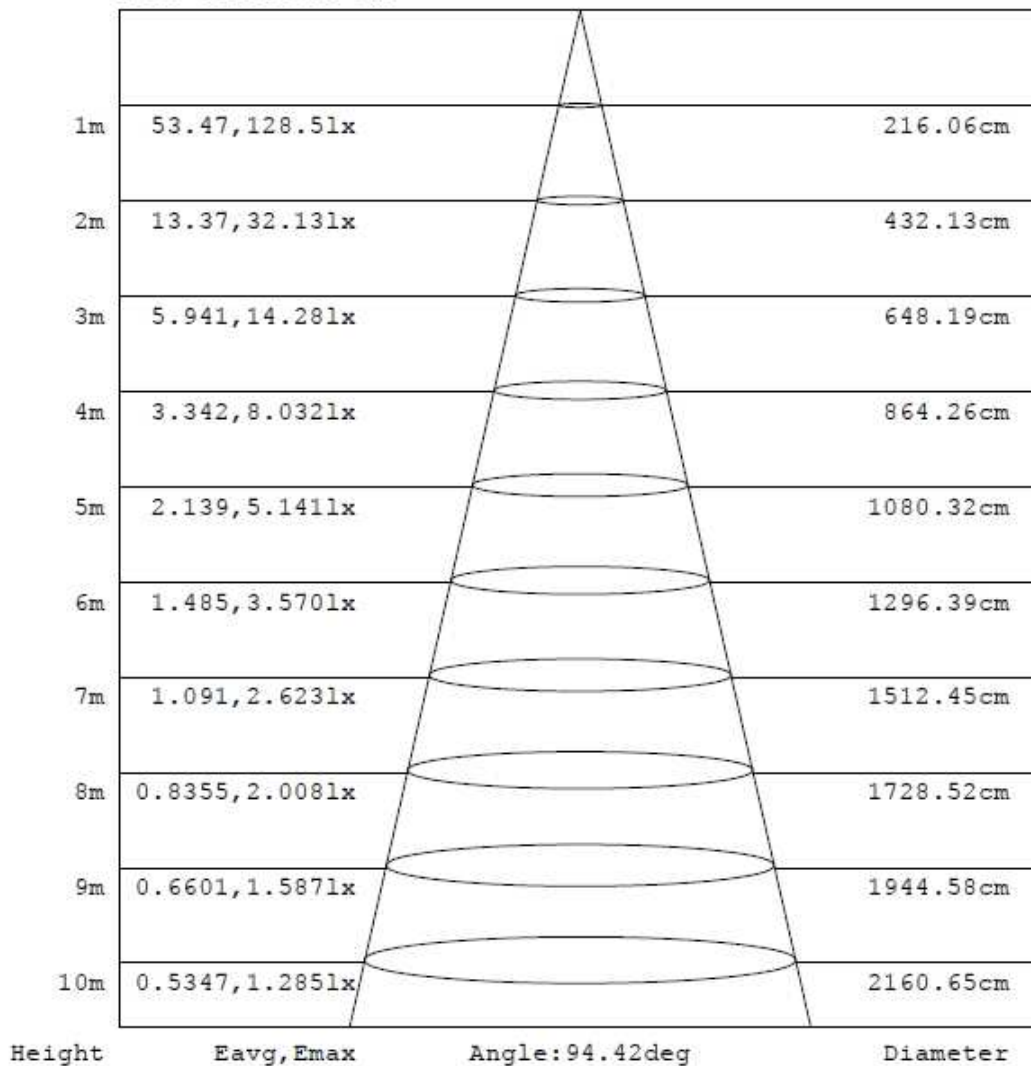
Test Condition: 15V 60Hz for SL04
Setting: 3 (Medium light output)

Illumination Plots

Model No.: SL04
 Mount Height: 10 m

Illuminance - Cone of Light

Flux out: 207.2 lm



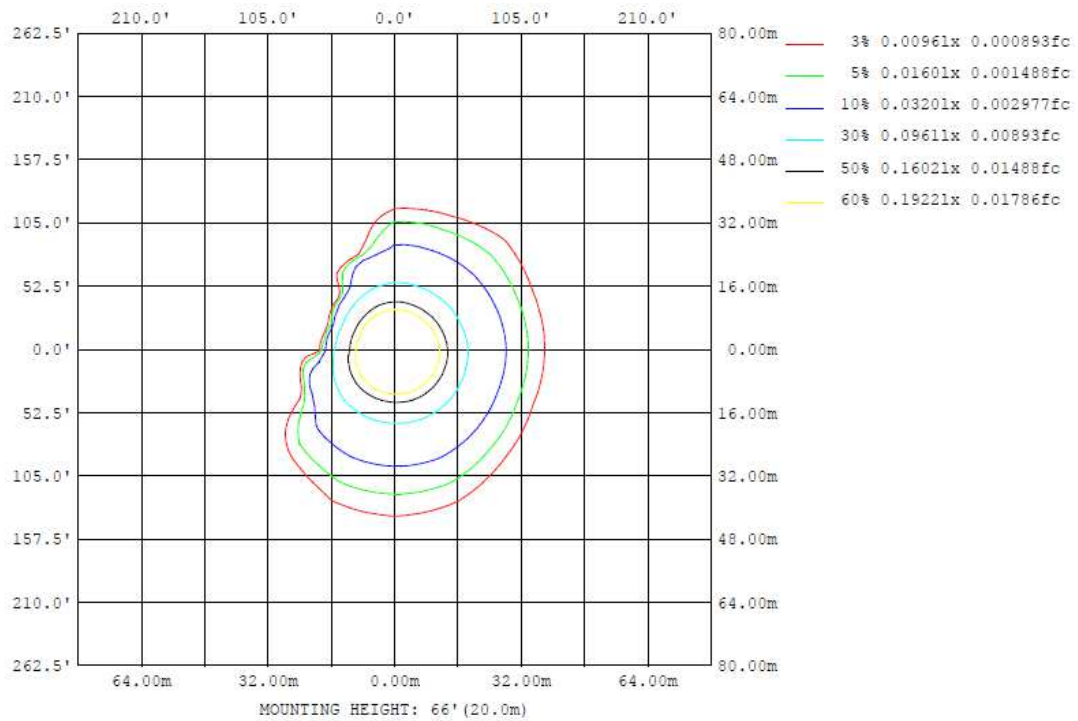
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL04
Setting: 3 (Medium light output)

Model No.: SL04
Mount Height: 20 m
Isoillumination Plot



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RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL04

Setting: 3 (Medium light output)

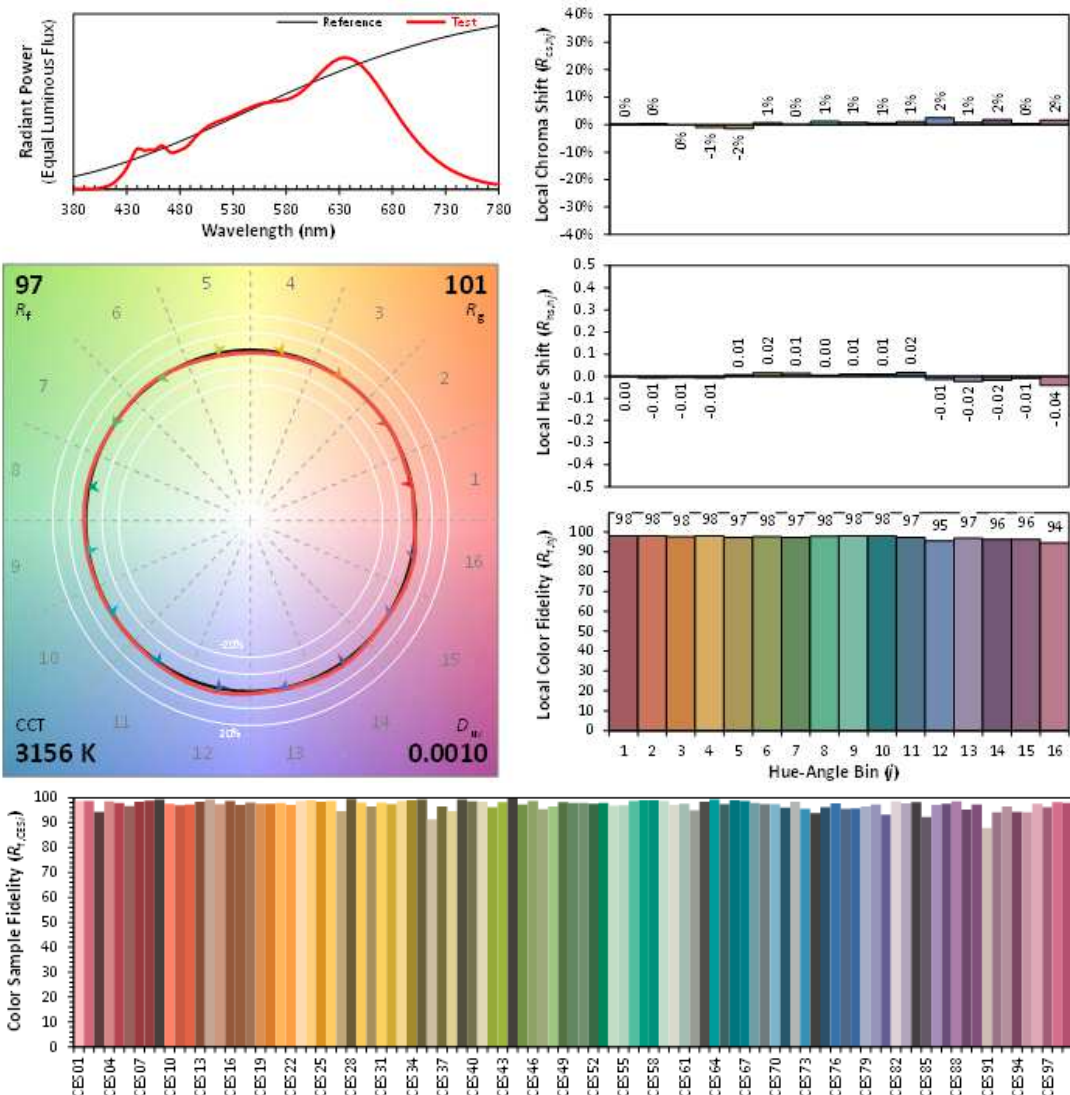
ANSI/IES TM-30-18 Color Rendition Report

Source: LED

Manufacturer: STERLING LIGHTING LLC

Date: 7/5/2024

Model: SL04



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.4276

y 0.4031

u' 0.2450

v' 0.5196

CIE 13.3-1995
(CRI)

R_a 98

R_g 99

***** End of Page *****

RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL04

Setting: 4 (Medium light output)

Total operation burning time: 70 min

Stabilization time: 60 min

Photometric Measurements at 25°C

Intertek Sample No.	Base Orientation	Correlated Color Temperature (K)	CRI	CIE 31' Chromaticity Coordinate (x)	CIE 31' Chromaticity Coordinate (y)	CIE 76' Chromaticity Coordinate (u')	CIE 76' Chromaticity Coordinate (v')
SL04							
0240711-15-001	N/A	3150	98	0.4279	0.4030	0.2452	0.5196

Photometric and Electrical Measurements at 25°C

Intertek Sample No.	Base Orientation	Input Voltage (Vac)	Input Current (A)	Lamp Input Power (Watts)	Input Power Factor	Absolute Luminous Flux (Lumens)	Lumen Efficacy (Lumens Per Watt)
SL04							
0240711-15-001	N/A	15.0	0.2312	2.3691	0.6783	210.141	88.70

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SL04		
0-30	73.552	35.00
0-40	119.392	56.82
0-60	190.148	90.49
0-90	210.138	100.00
0-180	210.141	100.00

Beam Angle

	Horizontal Spread (°)	Vertical Spread (°)
SL04		
Beam (50%)	95.1	109.6
Beam Angle	102.4	

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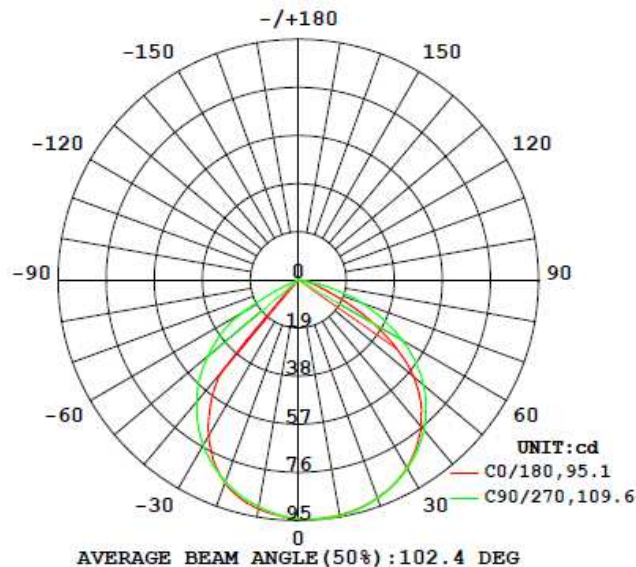
RESULTS OF TESTS (cont'd)

Intensity (Candlepower) Summary at 25°C – Candelas

Test Condition: 15V 60Hz for SL04

Setting: 4 (Medium light output)

G \ C(°)	0	22.5	45	67.5	90
0	94.302	94.302	94.302	94.302	94.302
5	94.626	94.835	95.118	95.035	94.841
10	94.175	94.633	95.120	94.956	94.530
15	93.225	93.856	94.482	94.094	93.437
20	91.562	92.394	93.208	92.691	91.709
25	89.105	90.075	91.133	90.549	89.212
30	85.689	86.666	88.136	87.600	86.001
35	81.147	82.235	84.140	83.779	82.002
40	75.517	76.628	79.011	79.033	77.173
45	68.515	69.535	72.741	73.211	71.422
50	59.531	60.020	64.860	66.292	64.699
55	47.744	47.517	54.565	58.124	56.697
60	34.173	33.477	41.501	48.198	47.403
65	20.590	19.733	27.340	35.776	37.149
70	10.310	10.166	14.423	22.537	26.662
75	5.586	4.911	7.597	10.715	15.276
80	0.267	0.245	1.341	4.044	5.179
85	0.108	0.120	0.126	0.093	0.326
90	0.045	0.056	0.056	0.000	0.000



***** End of Page *****

RESULTS OF TESTS (cont'd)

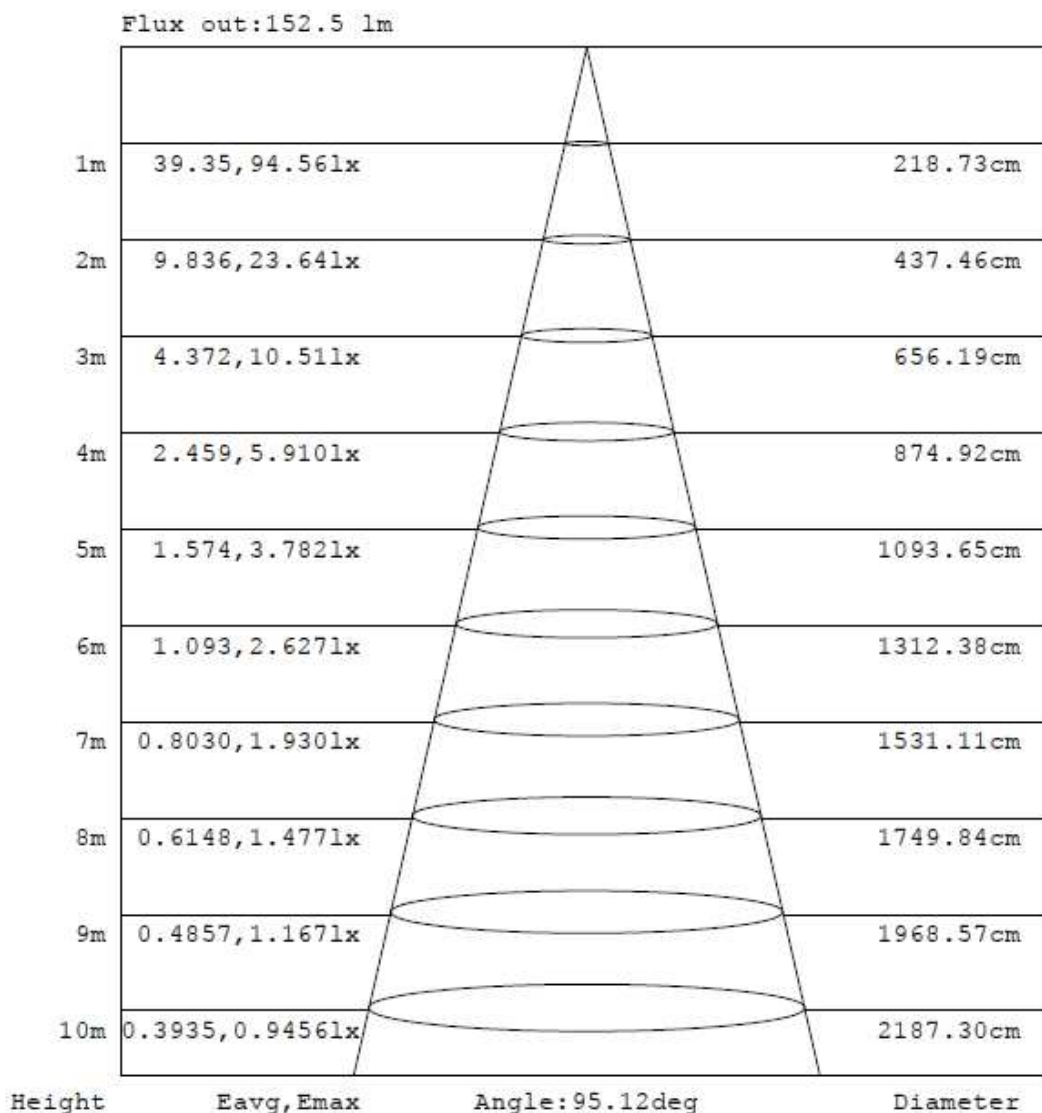
Test Condition: 15V 60Hz for SL04

Setting: 4 (Medium light output)

Illumination Plots

Model No.: SL04
Mount Height: 10 m

Illuminance - Cone of Light



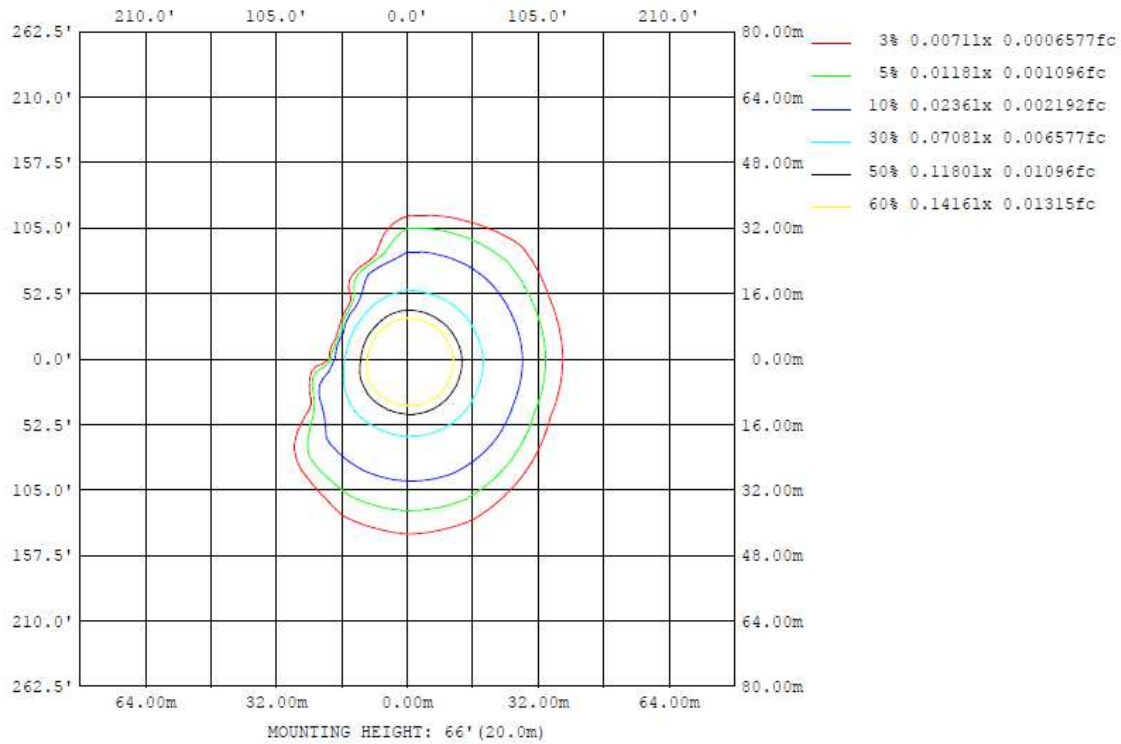
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

***** End of Page *****

RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL04
Setting: 4 (Medium light output)

Model No.: SL04
 Mount Height: 20 m
Isoillumination Plot



***** End of Page *****

RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL04
Setting: 4 (Medium light output)

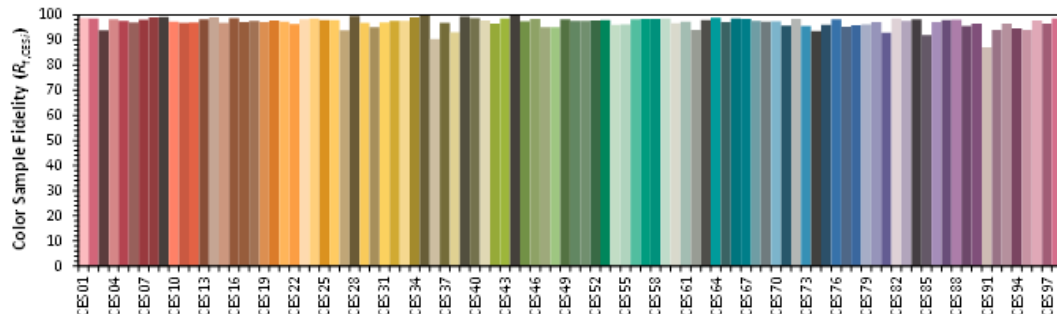
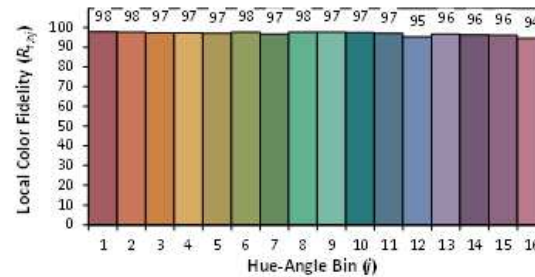
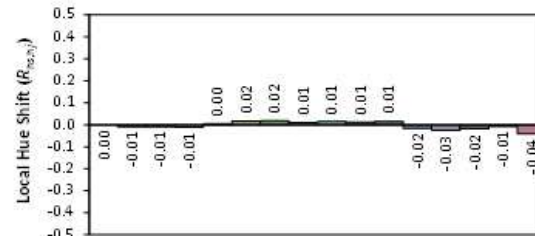
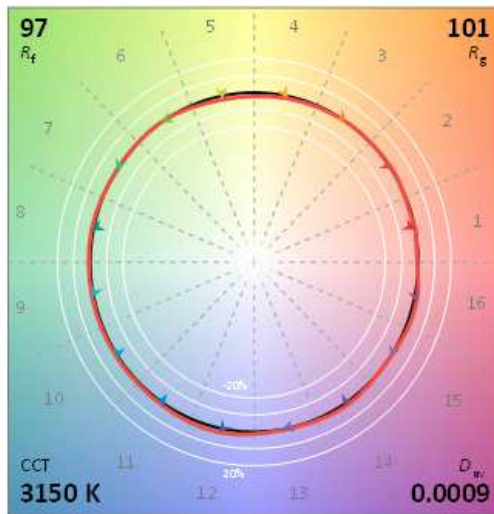
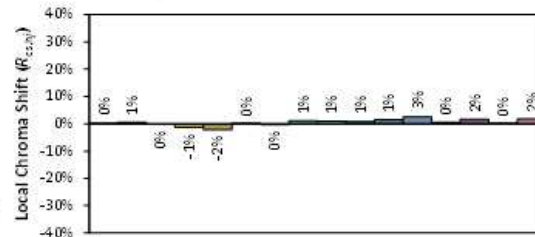
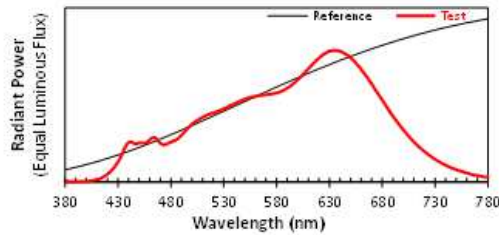
ANSI/IES TM-30-18 Color Rendition Report

Source: LED

Manufacturer: STERLING LIGHTING LLC

Date: 7/5/2024

Model: SL04



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.4279

y 0.4030

u' 0.2452

v' 0.5196

CIE 13.3-1995
(CRI)

R_a 98

R_g 98

***** End of Page *****

RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL04

Setting: 5 (Min light output)

Total operation burning time: 70 min

Stabilization time: 60 min

Photometric Measurements at 25°C

Intertek Sample No.	Base Orientation	Correlated Color Temperature (K)	CRI	CIE 31' Chromaticity Coordinate (x)	CIE 31' Chromaticity Coordinate (y)	CIE 76' Chromaticity Coordinate (u')	CIE 76' Chromaticity Coordinate (v')
SL04							
0240711-15-001	N/A	3146	98	0.4280	0.4028	0.2453	0.5196

Photometric and Electrical Measurements at 25°C

Intertek Sample No.	Base Orientation	Input Voltage (Vac)	Input Current (A)	Lamp Input Power (Watts)	Input Power Factor	Absolute Luminous Flux (Lumens)	Lumen Efficacy (Lumens Per Watt)
SL04							
0240711-15-001	N/A	15.0	0.1593	1.5467	0.6462	133.225	86.13

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SL04		
0-30	46.823	35.15
0-40	75.996	57.04
0-60	120.865	90.72
0-90	133.225	100.00
0-180	133.225	100.00

Beam Angle

	Horizontal Spread (°)	Vertical Spread (°)
SL04		
Beam (50%)	95.2	109.6
Beam Angle	102.4	

***** End of Page *****

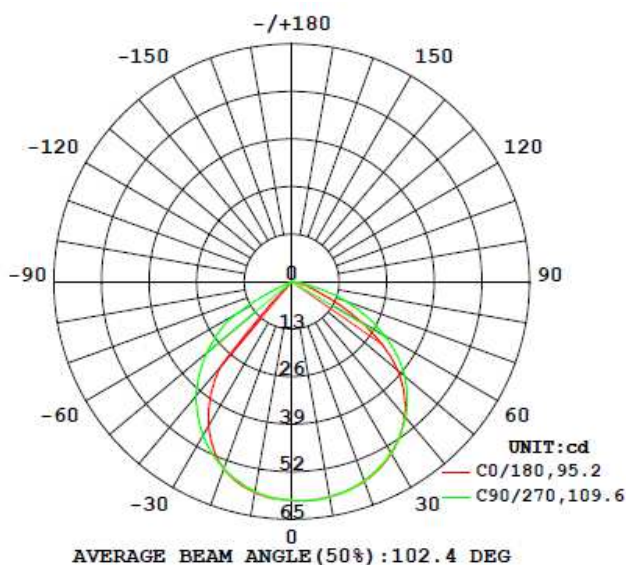
RESULTS OF TESTS (cont'd)

Intensity (Candlepower) Summary at 25°C – Candelas

Test Condition: 15V 60Hz for SL04

Setting: 5 (Min light output)

G \ C(°)	0	22.5	45	67.5	90
0	59.822	59.822	59.822	59.822	59.822
5	60.007	60.148	60.249	60.182	60.054
10	59.749	60.046	60.157	60.052	59.823
15	59.112	59.537	59.694	59.479	59.083
20	58.084	58.620	58.776	58.523	57.915
25	56.505	57.132	57.388	57.080	56.250
30	54.361	55.069	55.389	55.118	54.143
35	51.472	52.244	52.738	52.624	51.502
40	47.872	48.680	49.355	49.527	48.368
45	43.462	44.093	45.199	45.752	44.634
50	37.799	37.996	39.870	41.188	40.247
55	30.328	30.028	32.884	35.851	35.066
60	21.774	21.232	24.362	29.197	29.085
65	12.991	12.323	15.390	21.087	22.646
70	6.451	6.359	7.712	12.449	15.923
75	3.411	2.956	4.189	5.483	8.632
80	0.141	0.130	0.231	1.845	2.613
85	0.044	0.053	0.048	0.011	0.032
90	0.004	0.012	0.005	0.000	0.000



***** End of Page *****

RESULTS OF TESTS (cont'd)

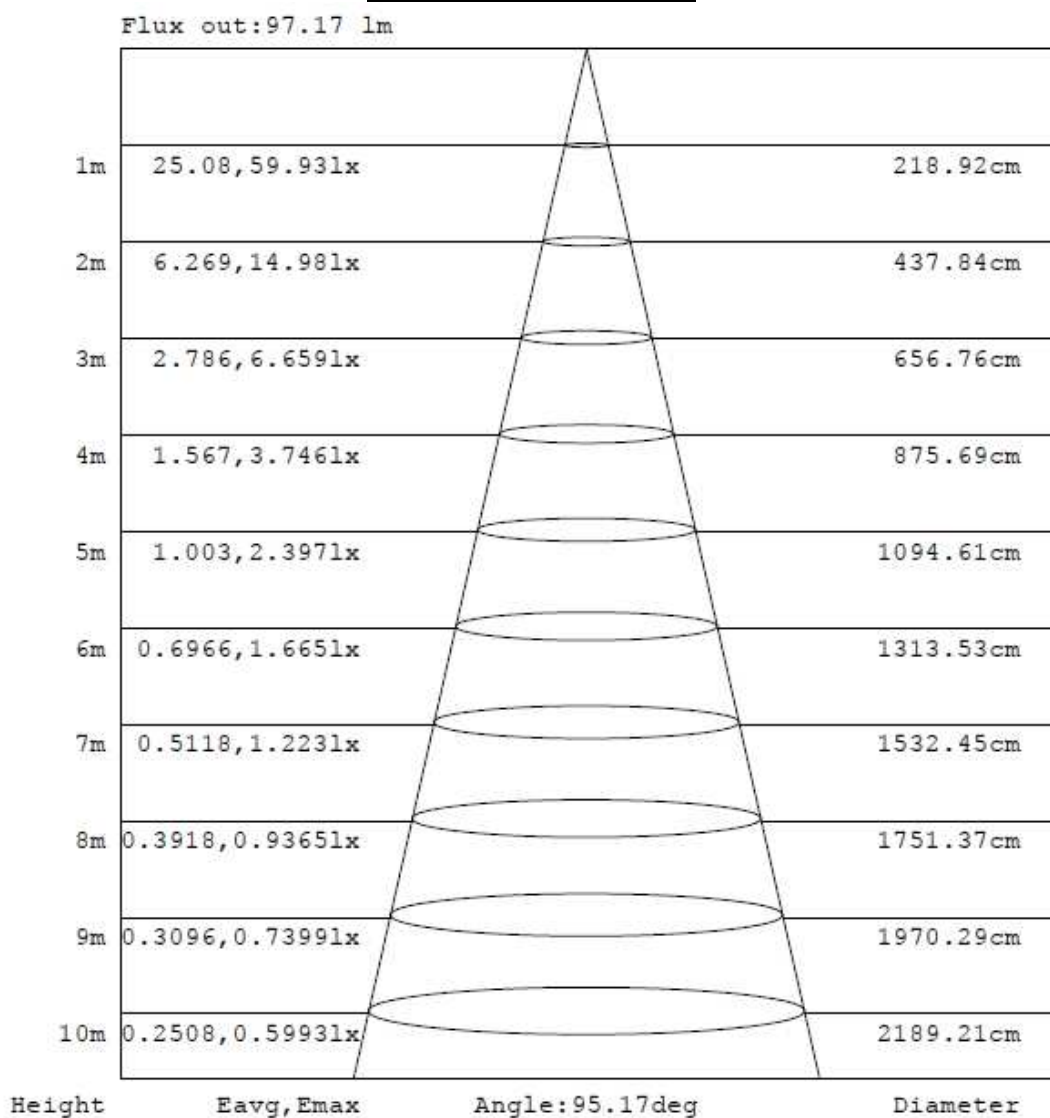
Test Condition: 15V 60Hz for SL04

Setting: 5 (Min light output)

Illumination Plots

Model No.: SL04
Mount Height: 10 m

Illuminance - Cone of Light



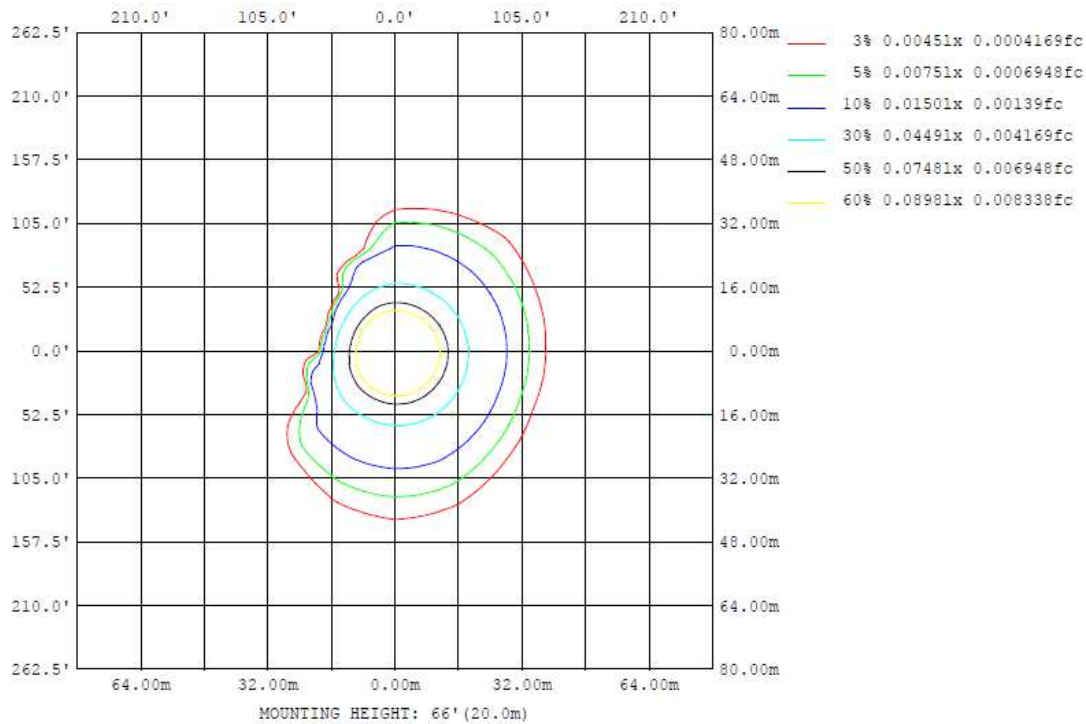
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

***** End of Page *****

RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL04
Setting: 5 (Min light output)

Model No.: SL04
Mount Height: 20 m
Isoillumination Plot



***** End of Page *****

RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL04

Setting: 5 (Medium light output)

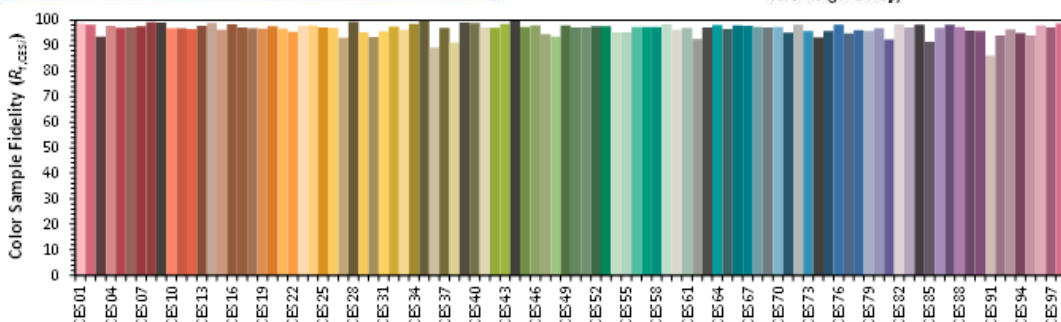
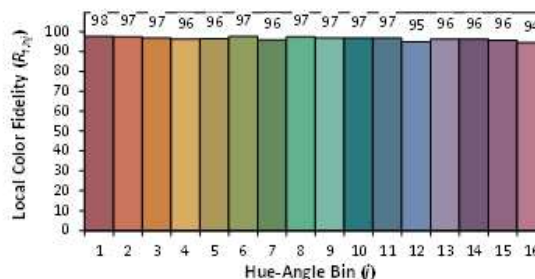
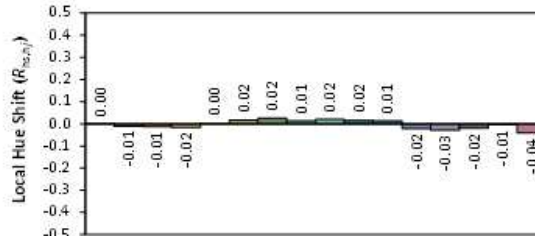
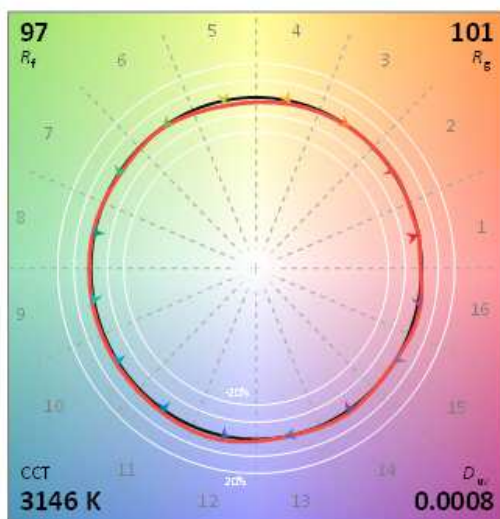
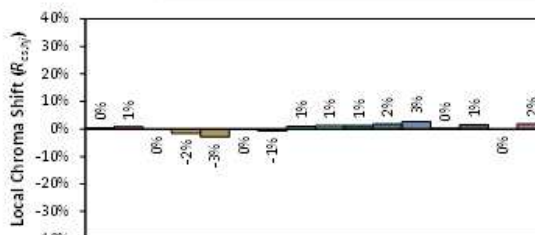
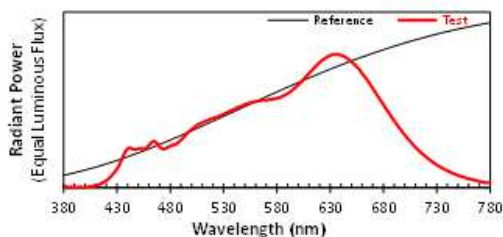
ANSI/IES TM-30-18 Color Rendition Report

Source: LED

Manufacturer: STERLING LIGHTING LLC

Date: 7/5/2024

Model: SL04



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.4280

y 0.4028

u' 0.2453

v' 0.5196

CIE 13.3-1995
(CRI)

R_a 98

R_g 96

***** End of Page *****

RESULTS OF TESTS (cont'd)

IN SITU TEMPERATURE MEASUREMENT TEST

Test Results of LED chip temperature and current

TMP led: BXEN-30S-13H-9C-00-0-0	
In-situ case temperature of LED source (°C)	Limit single led chip temperature(°C)
57.3	105
Measured Drive current for each LED package/array/module (mA)	Limit single led chip current (mA)
63	100

Note: In-situ case temperature was corrected to ambient temperature at 25°C in above table.

***** End of Page *****