

SUMMARY

Test Condition: 15V 60Hz for SL31

Setting: 1 (Max light output)

Criteria	Result
Total Lumen Output (lm)	366.627
Total Power(W)	5.2175
Lamp Luminaire Efficacy (lm/W)	70.27
Power Factor	0.6947
Field Angle (°)	59.6
Correlated Color Temperature (CCT)	3068
Color Rendering Index (CRI)	96
Color Rendering Index (R ₉)	82
Fidelity Index (R _f)	94
Gamut Index (R _g)	101
Chromaticity Coordinate (x)	0.4337
Chromaticity Coordinate (y)	0.4056
Chromaticity Coordinate (u')	0.2478
Chromaticity Coordinate (v')	0.5215
In-situ Case Temperature of LED/COB (°C)	37.3
Drive Current of LED/COB (mA)	125
Projection Life Time, Reported L70 (hours)	>42000

Test Condition: 15V 60Hz for SL31

Setting: 2 (Medium light output)

Criteria	Result
Total Lumen Output (lm)	280.806
Total Power(W)	3.7335
Lamp Luminaire Efficacy (lm/W)	75.21
Power Factor	0.6916
Correlated Color Temperature (CCT)	3062
Color Rendering Index (CRI)	96
Color Rendering Index (R ₉)	83
Fidelity Index (R _f)	95
Gamut Index (R _g)	101
Chromaticity Coordinate (x)	0.4342
Chromaticity Coordinate (y)	0.4059
Chromaticity Coordinate (u')	0.2480
Chromaticity Coordinate (v')	0.5217

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

SUMMARY (Cont'd)

Test Condition: 15V 60Hz for SL31

Setting: 3 (Medium light output)

Criteria	Result
Total Lumen Output (lm)	180.673
Total Power(W)	2.2902
Lamp Luminaire Efficacy (lm/W)	78.89
Power Factor	0.6749
Correlated Color Temperature (CCT)	3055
Color Rendering Index (CRI)	96
Color Rendering Index (R ₉)	84
Fidelity Index (R _f)	95
Gamut Index (R _g)	100
Chromaticity Coordinate (x)	0.4350
Chromaticity Coordinate (y)	0.4068
Chromaticity Coordinate (u')	0.2482
Chromaticity Coordinate (v')	0.5221

Test Condition: 15V 60Hz for SL31

Setting: 4 (Medium light output)

Criteria	Result
Total Lumen Output (lm)	84.7439
Total Power(W)	1.1248
Lamp Luminaire Efficacy (lm/W)	75.34
Power Factor	0.6150
Correlated Color Temperature (CCT)	3045
Color Rendering Index (CRI)	97
Color Rendering Index (R ₉)	86
Fidelity Index (R _f)	94
Gamut Index (R _g)	100
Chromaticity Coordinate (x)	0.4358
Chromaticity Coordinate (y)	0.4072
Chromaticity Coordinate (u')	0.2485
Chromaticity Coordinate (v')	0.5224

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

SUMMARY (Cont'd)

Test Condition: 15V 60Hz for SL31

Setting: 5 (Minimum light output)

Criteria	Result
Total Lumen Output (lm)	33.8884
Total Power(W)	0.5751
Lamp Luminaire Efficacy (lm/W)	58.92
Power Factor	0.5521
Correlated Color Temperature (CCT)	3039
Color Rendering Index (CRI)	97
Color Rendering Index (R ₉)	87
Fidelity Index (R _f)	94
Gamut Index (R _g)	100
Chromaticity Coordinate (x)	0.4361
Chromaticity Coordinate (y)	0.4071
Chromaticity Coordinate (u')	0.2487
Chromaticity Coordinate (v')	0.5224

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

RESULTS OF TESTS

Test Condition: 15V 60Hz for SL31

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')
SL31							
0231201-15-012	N/A	3068	96	0.4337	0.4056	0.2478	0.5215

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)
SL31							
0231201-15-012	N/A	15.0	0.4977	5.2175	0.6947	366.627	70.27

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SL31		
0-30	300.4	81.9
0-40	337.2	92.0
0-60	362.9	99.0
0-90	366.6	100.0
0-180	366.6	100.0

Beam Angle

	Horizontal Spread (°)	Vertical Spread (°)
SL31		
Beam (50%)	33.3	33.4
Beam Angle	33.3	

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

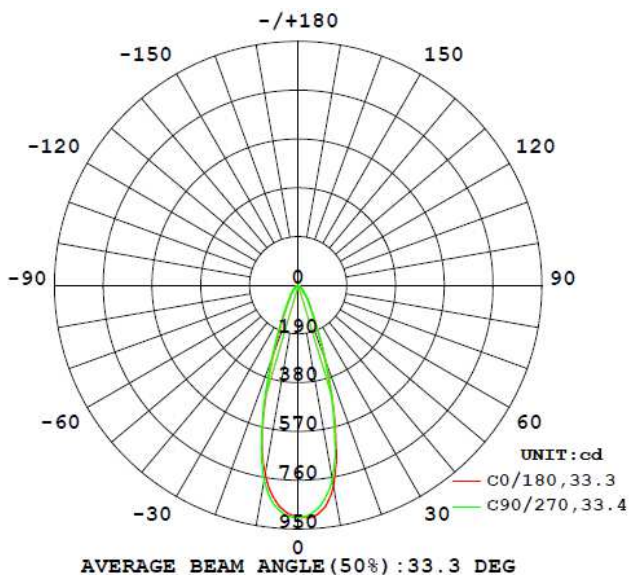
RESULTS OF TESTS (cont'd)

Intensity (Candlepower) Summary at 25°C – Candelas

Test Condition: 15V 60Hz for SL31

Setting: 1 (Max light output)

G \ C(°)	0	22.5	45	67.5	90
0	903.05	903.05	903.05	903.05	903.05
5	894.25	890.21	884.71	877.73	874.28
10	792.07	785.70	778.38	772.22	765.65
15	552.63	543.69	539.71	537.34	538.92
20	312.32	304.39	300.44	300.15	301.64
25	157.76	150.65	146.96	147.05	150.37
30	91.49	88.60	86.52	86.04	86.51
35	57.34	54.66	52.76	54.15	58.85
40	27.85	26.85	25.69	26.73	34.19
45	12.25	11.38	11.06	12.53	17.31
50	5.39	5.09	5.04	6.13	8.81
55	1.99	1.83	1.84	2.35	4.32
60	0.76	0.63	0.65	0.99	1.90
65	0.05	0.03	0.03	0.12	0.84
70	0.00	0.00	0.00	0.00	0.17
75	0.00	0.00	0.00	0.00	0.01
80	0.00	0.00	0.00	0.00	0.00
85	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00



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

RESULTS OF TESTS (cont'd)

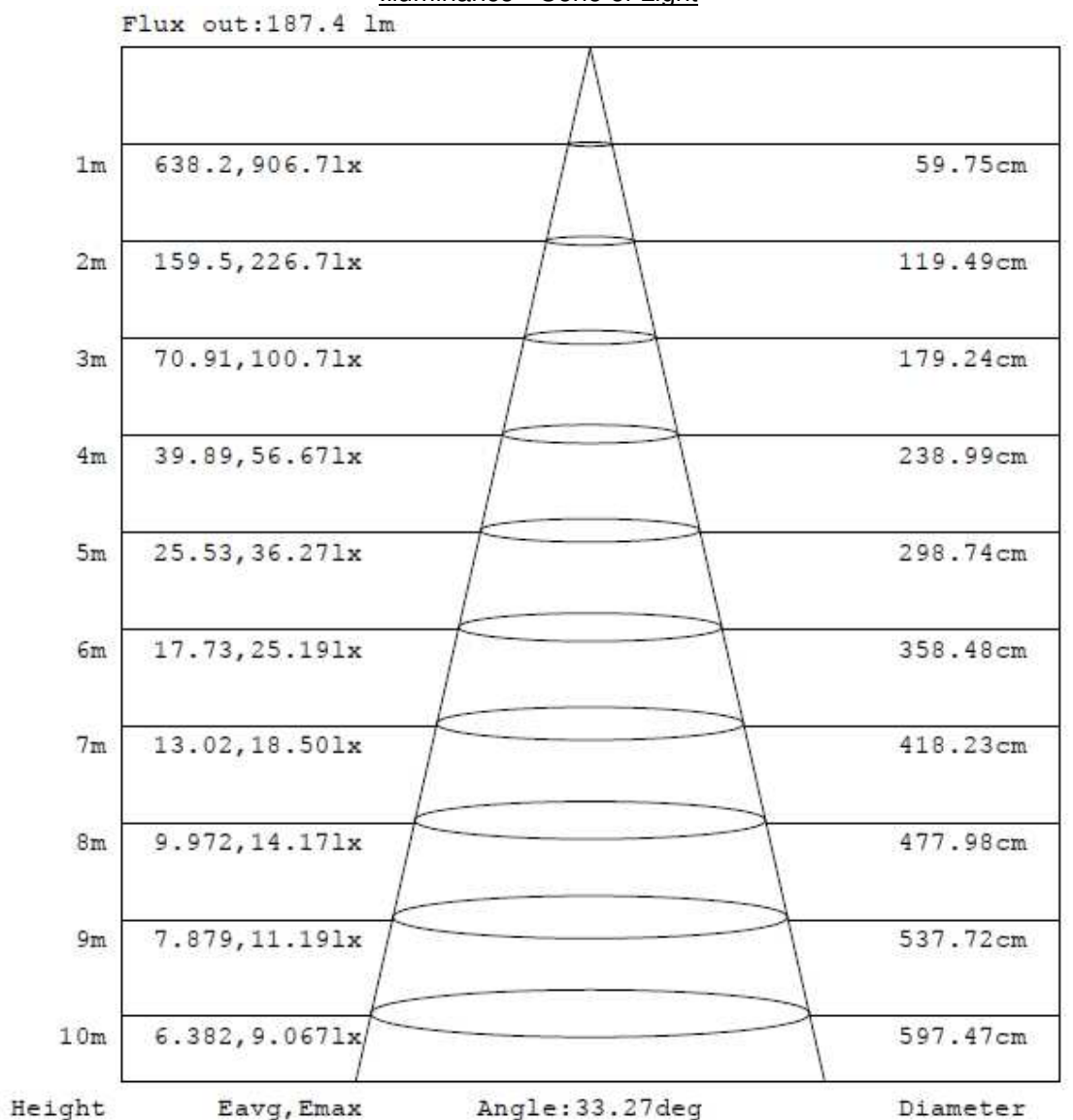
Test Condition: 15V 60Hz for SL31

Setting: 1 (Max light output)

Illumination Plots

Model No.: SL31
Mount Height: 10 m

Illuminance - Cone of Light



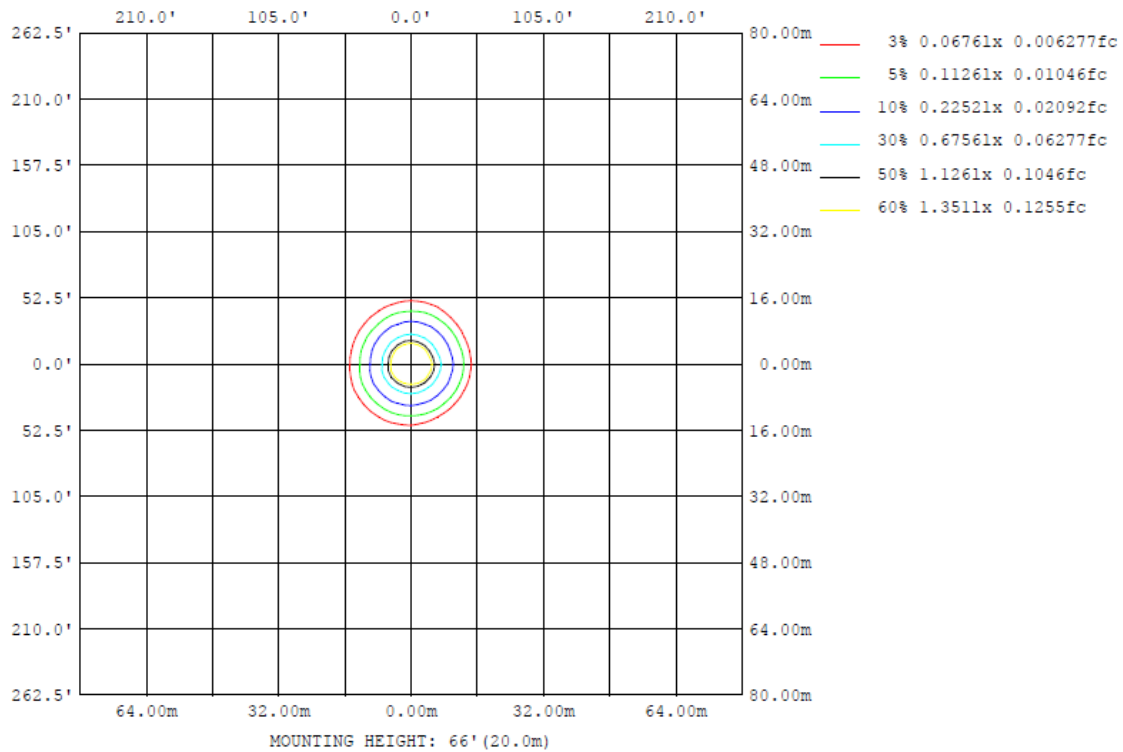
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL31
Setting: 1 (Max light output)

Model No.: SL31
Mount Height: 20 m
Isoillumination Plot



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

RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL31

Setting: 1 (Max light output)

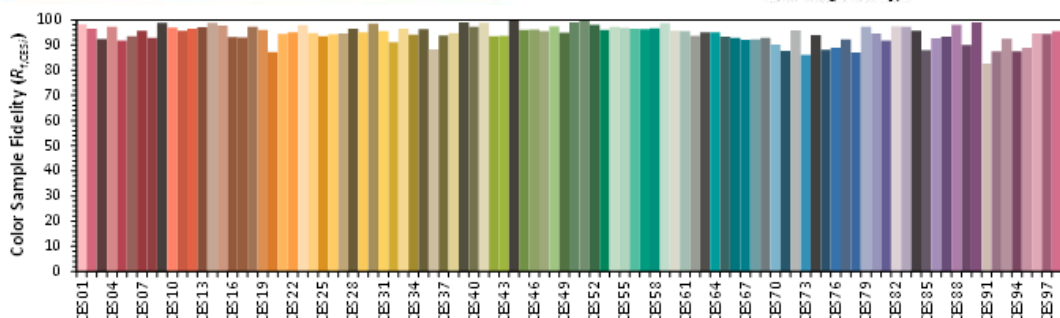
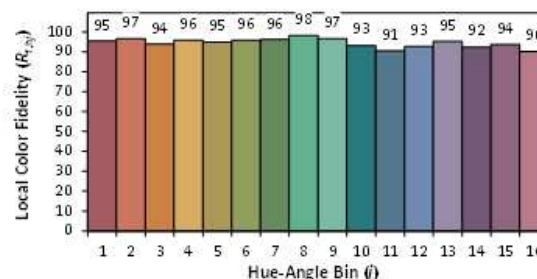
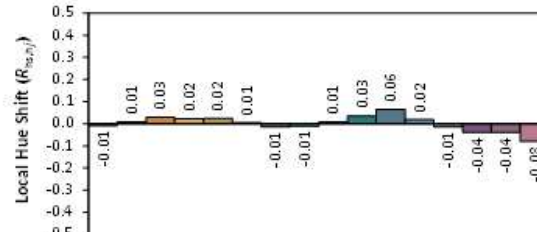
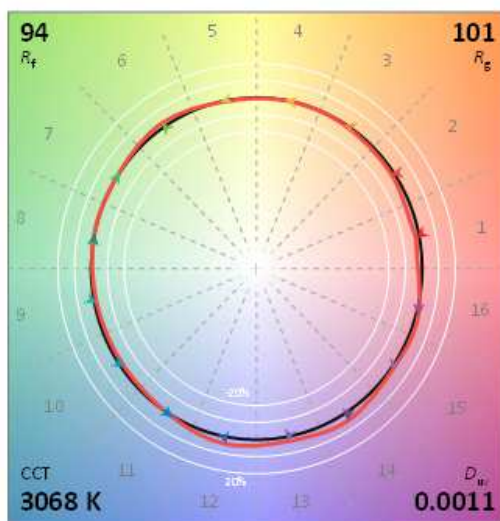
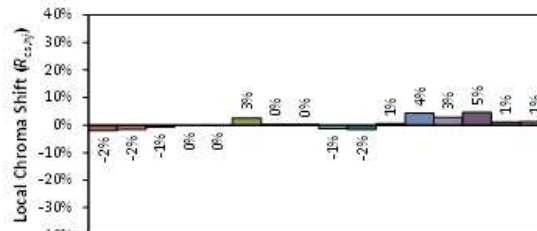
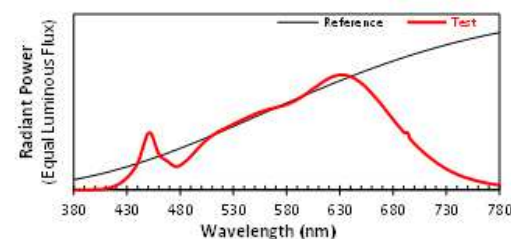
ANSI/IES TM-30-18 Color Rendition Report

Source: LED

Manufacturer: STERLING LIGHTING LLC

Date: 12/18/2023

Model: SL31



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

x 0.4337
y 0.4056
u' 0.2478
v' 0.5215

CIE 13.3-1995
(CRI)

R_a 96
R_s 82

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

RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL31

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')
SL31							
0231201-15-012	N/A	3062	96	0.4342	0.4059	0.2480	0.5217

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)
SL31							
0231201-15-012	N/A	15.0	0.3629	3.7335	0.6916	280.806	75.21

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SL31		
0-30	230.0	81.9
0-40	258.1	91.9
0-60	277.9	99.0
0-90	280.8	100.0
0-180	280.8	100.00

Beam Angle

	Horizontal Spread (°)	Vertical Spread (°)
SL31		
Beam (50%)	33.5	33.2
Beam Angle	33.4	

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

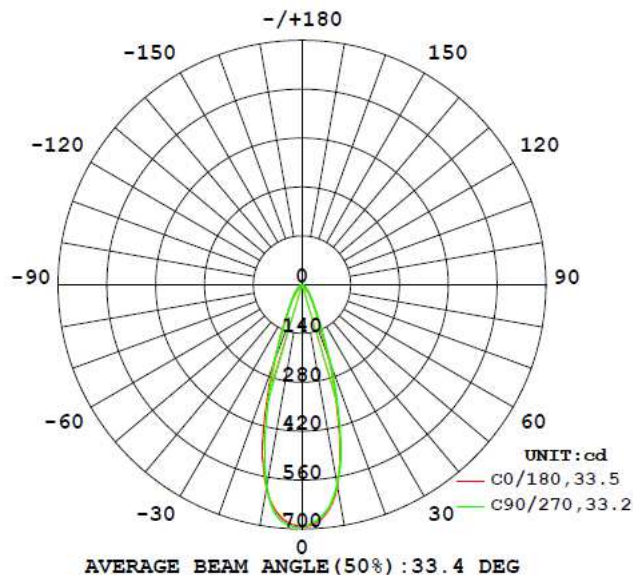
RESULTS OF TESTS (cont'd)

Intensity (Candlepower) Summary at 25°C – Candelas

Test Condition: 15V 60Hz for SL31

Setting: 2 (Medium light output)

G \ C(°)	0	22.5	45	67.5	90
0	691.40	691.40	691.40	691.40	691.40
5	670.19	666.81	664.01	662.43	665.23
10	587.02	578.40	574.62	575.52	580.71
15	404.79	399.79	400.25	407.98	421.14
20	226.64	222.47	223.57	230.27	238.31
25	109.90	110.53	113.99	115.42	118.74
30	65.09	64.52	65.85	67.44	67.84
35	40.62	43.98	44.34	45.02	45.14
40	20.51	25.38	31.47	32.06	32.31
45	9.32	12.64	20.39	22.94	23.18
50	4.52	6.37	12.00	16.29	16.70
55	1.69	3.00	6.69	10.93	12.22
60	0.70	1.37	3.41	6.56	8.35
65	0.06	0.57	1.52	3.43	4.89
70	0.00	0.09	0.62	1.55	2.39
75	0.00	0.00	0.14	0.48	0.80
80	0.00	0.00	0.00	0.06	0.18
85	0.00	0.00	0.00	0.00	0.02
90	0.00	0.00	0.00	0.00	0.00



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

RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL31

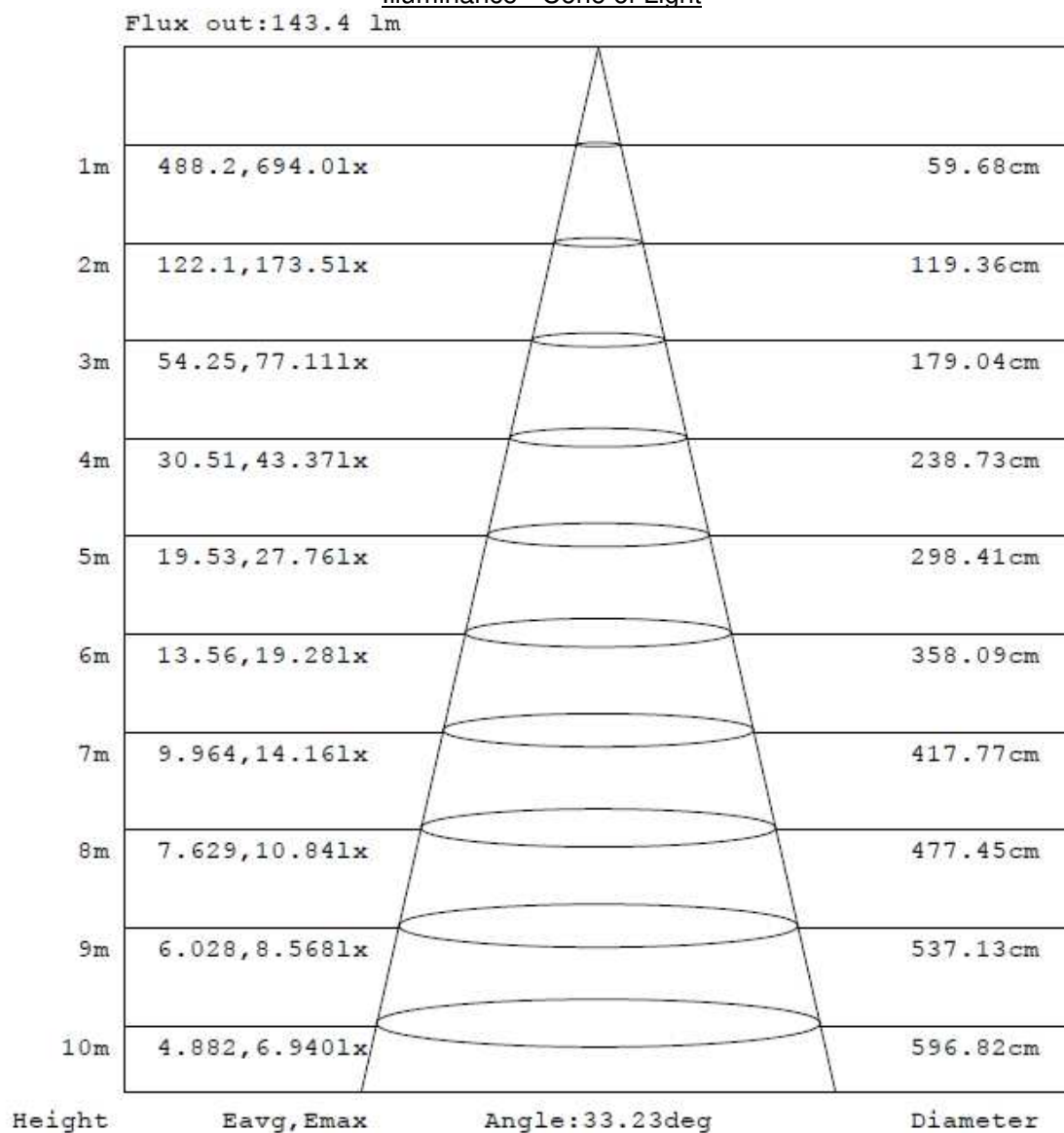
Setting: 2 (Medium light output)

Illumination Plots

Model No.: SL31

Mount Height: 10 m

Illuminance - Cone of Light



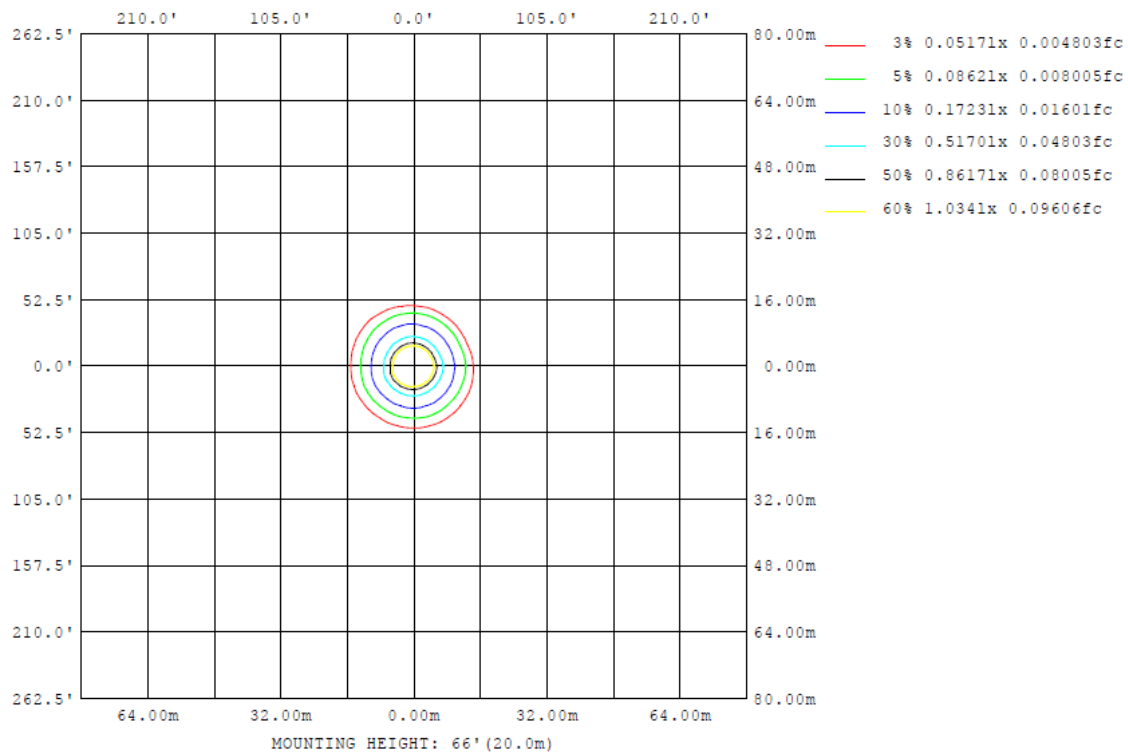
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL31
Setting: 2 (Medium light output)

Model No.: SL31
Mount Height: 20 m
Isoillumination Plot



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

RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL31

Setting: 2 (Medium light output)

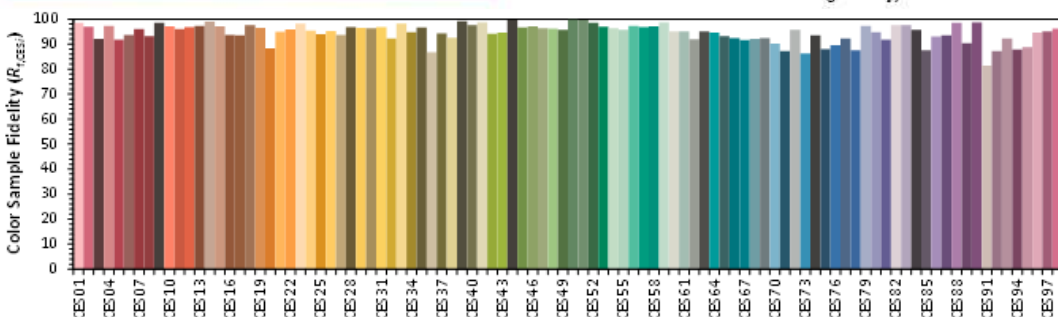
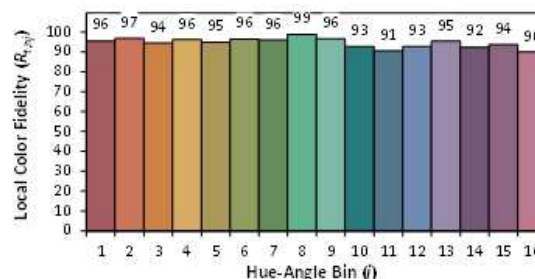
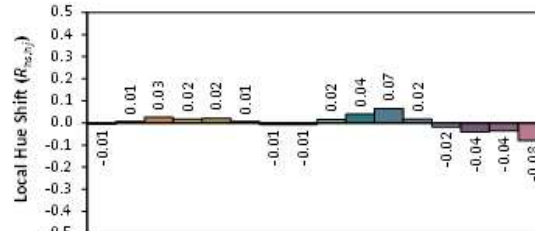
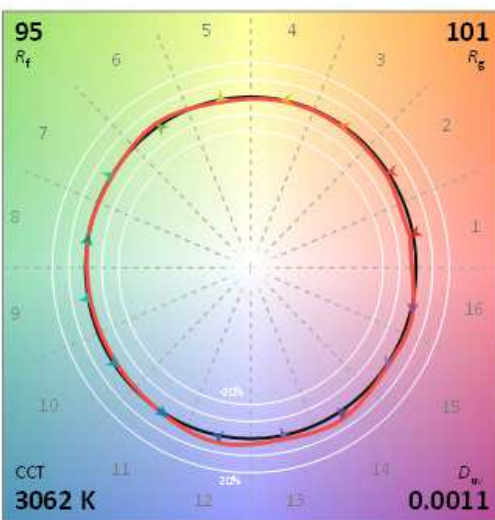
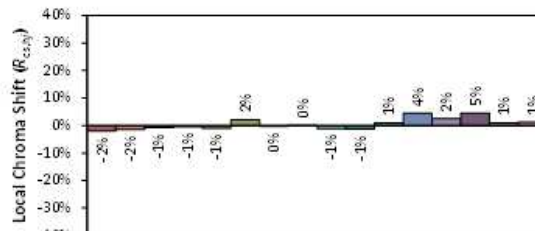
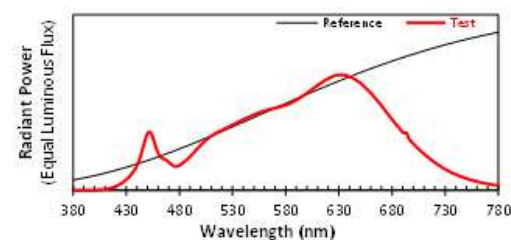
ANSI/IES TM-30-18 Color Rendition Report

Source: LED

Manufacturer: STERLING LIGHTING LLC

Date: 12/18/2023

Model: SL31



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

x 0.4342

y 0.4059

u' 0.2480

v' 0.5217

CIE 13.3-1995
(CRI)

R_a 96

R_g 83

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

RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL31

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')
SL31							
0231201-15-012	N/A	3055	96	0.4350	0.4068	0.2482	0.5221

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)
SL31							
0231201-15-012	N/A	15.0	0.2272	2.2902	0.6749	180.673	78.89

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SL31		
0-30	147.9	81.9
0-40	166.1	92.0
0-60	178.9	99.0
0-90	180.7	100.0
0-180	180.7	100.00

Beam Angle

	Horizontal Spread (°)	Vertical Spread (°)
SL31		
Beam (50%)	33.3	33.4
Beam Angle	33.4	

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

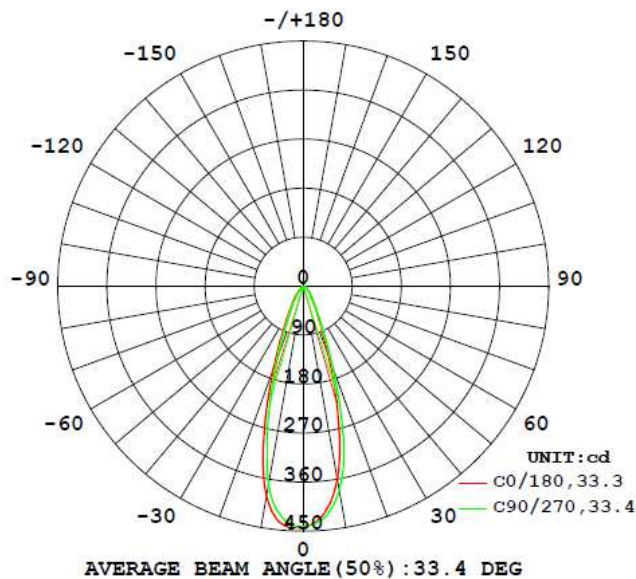
RESULTS OF TESTS (cont'd)

Intensity (Candlepower) Summary at 25°C – Candelas

Test Condition: 15V 60Hz for SL31

Setting: 3 (Medium light output)

G \ C(°)	0	22.5	45	67.5	90
0	441.83	441.83	441.83	441.83	441.83
5	421.10	421.13	422.37	424.21	427.63
10	360.05	361.14	365.09	371.59	380.83
15	248.37	250.88	258.34	269.90	283.90
20	135.99	136.94	139.92	147.63	158.60
25	69.57	69.93	71.19	75.37	80.93
30	41.16	40.73	41.09	42.63	45.44
35	27.78	27.51	27.56	28.27	29.61
40	19.92	19.88	20.08	20.46	21.36
45	14.12	14.10	14.21	14.50	15.04
50	9.96	10.18	10.27	10.43	10.65
55	6.55	7.42	7.57	7.71	7.83
60	3.84	4.93	5.26	5.38	5.51
65	2.05	2.77	3.26	3.49	3.55
70	0.84	1.34	1.70	1.95	1.92
75	0.24	0.40	0.58	0.78	0.74
80	0.01	0.06	0.12	0.18	0.18
85	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00



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

RESULTS OF TESTS (cont'd)

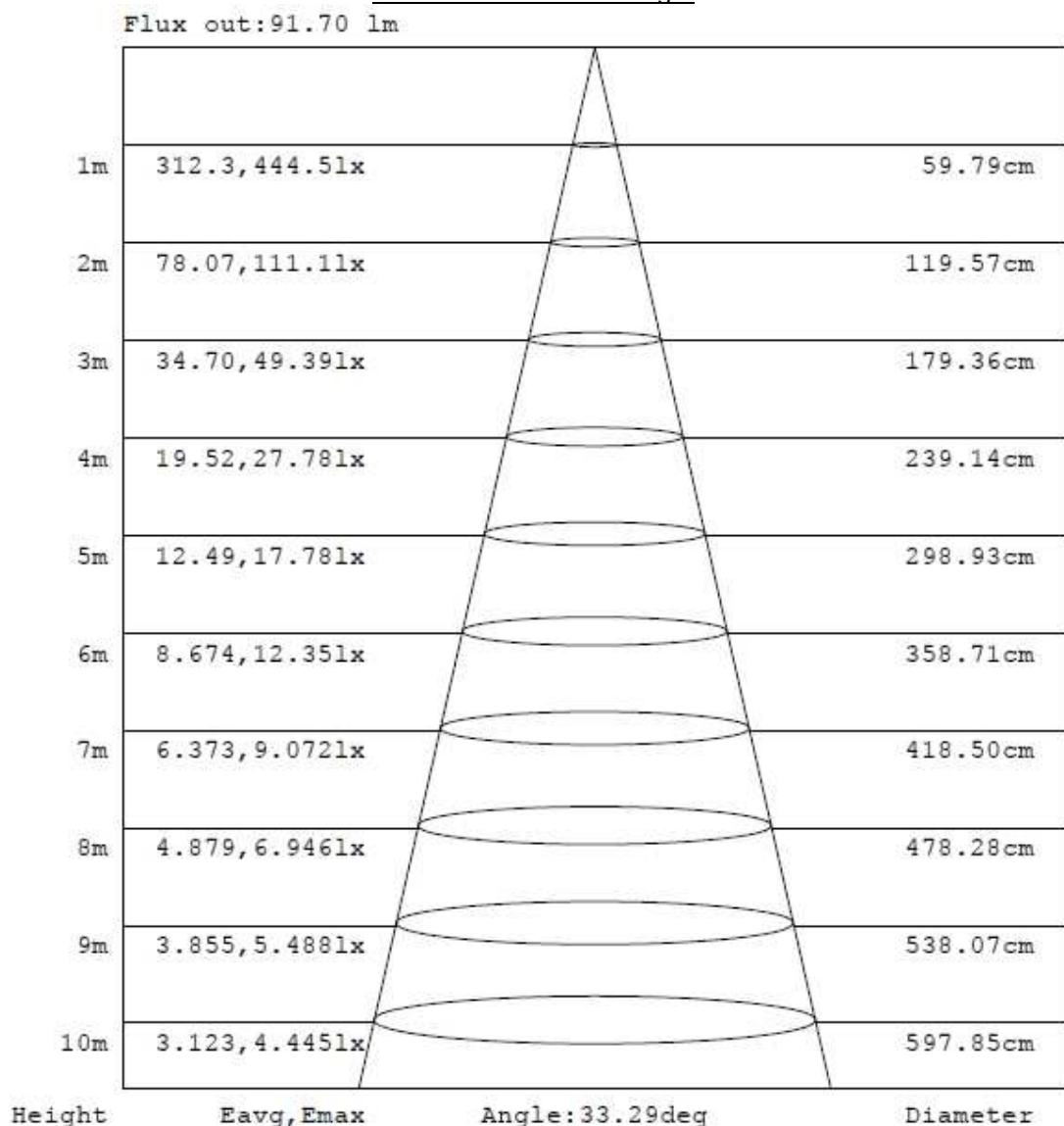
Test Condition: 15V 60Hz for SL31

Setting: 3 (Medium light output)

Illumination Plots

Model No.: SL31
Mount Height: 10 m

Illuminance - Cone of Light



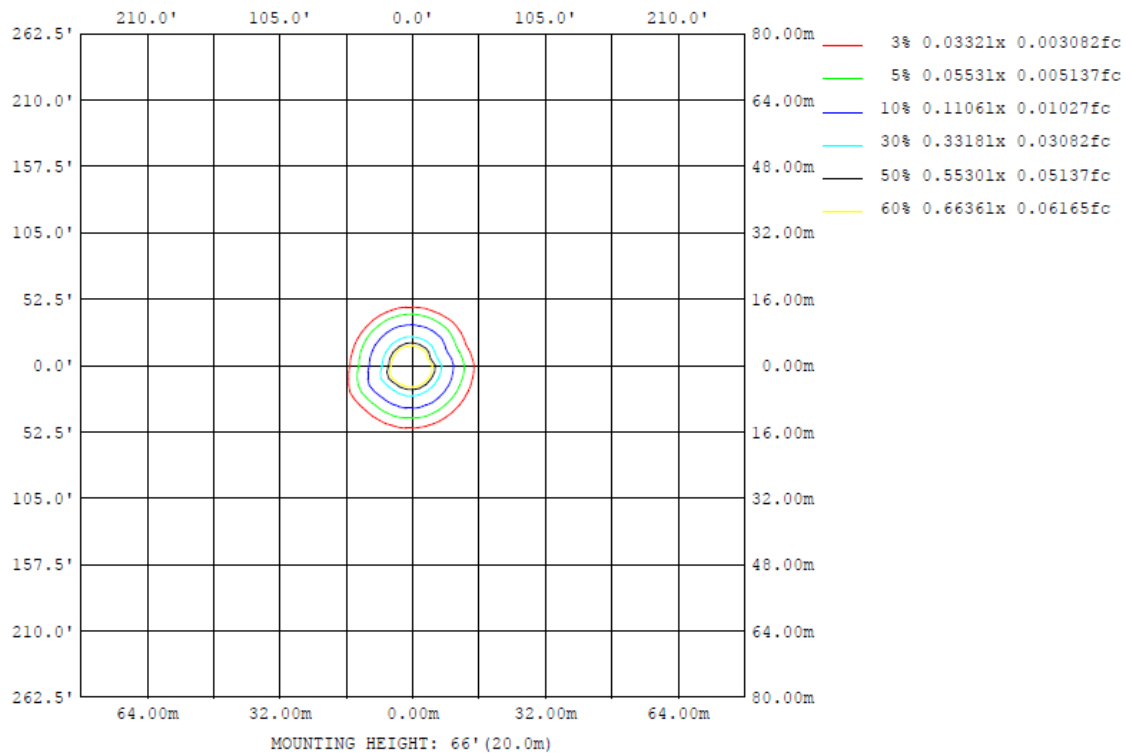
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL31
Setting: 3 (Medium light output)

Model No.: SL31
Mount Height: 20 m
Isoillumination Plot



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

RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL31

Setting: 3 (Medium light output)

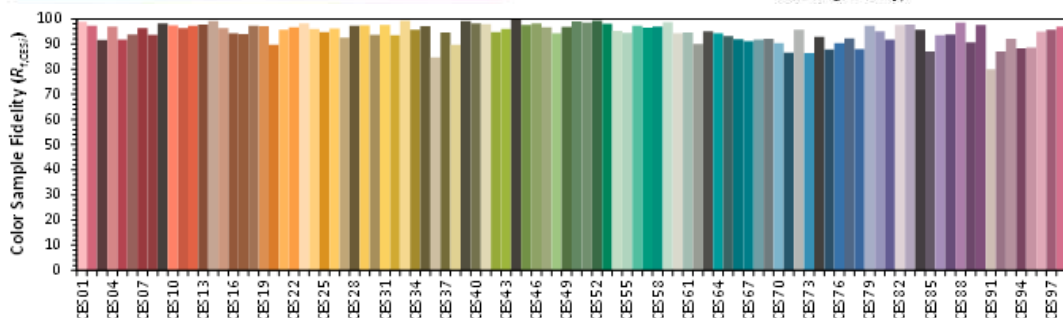
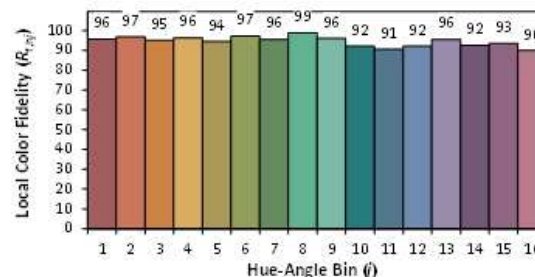
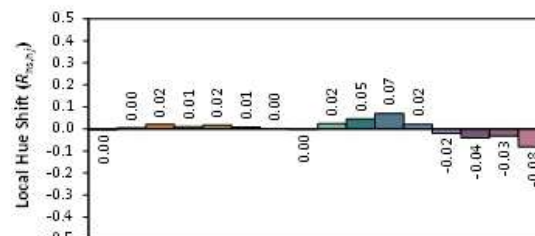
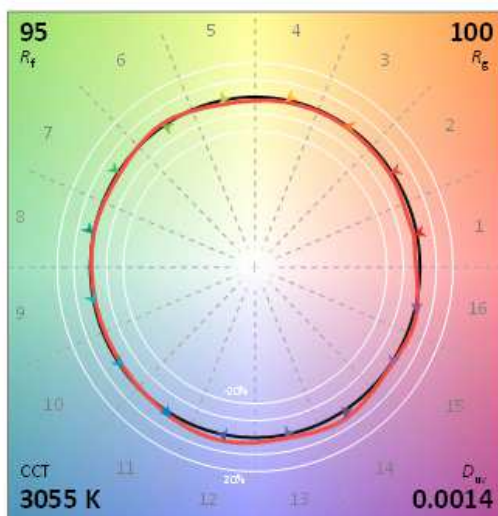
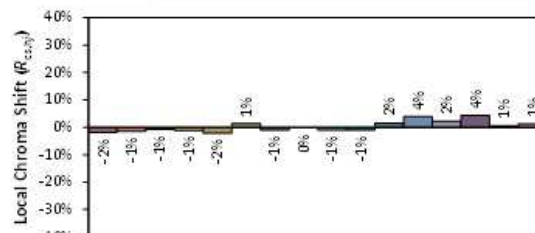
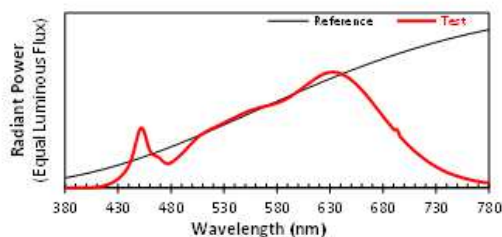
ANSI/IES TM-30-18 Color Rendition Report

Source: LED

Manufacturer: STERLING LIGHTING LLC

Date: 12/18/2023

Model: SL31



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

x 0.4350

y 0.4068

u' 0.2482

v' 0.5221

CIE 13.3-1995
(CRI)

R_a 96

R_g 84

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

RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL31

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')
SL31							
0231201-15-012	N/A	3045	97	0.4358	0.4072	0.2485	0.5224

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)
SL31							
0231201-15-012	N/A	15.0	0.1224	1.1248	0.6150	84.7439	75.34

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SL31		
0-30	69.60	82.1
0-40	78.08	92.1
0-60	83.93	99.0
0-90	84.74	100.0
0-180	84.74	100.00

Beam Angle

	Horizontal Spread (°)	Vertical Spread (°)
SL31		
Beam (50%)	33.5	33.2
Beam Angle	33.3	

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

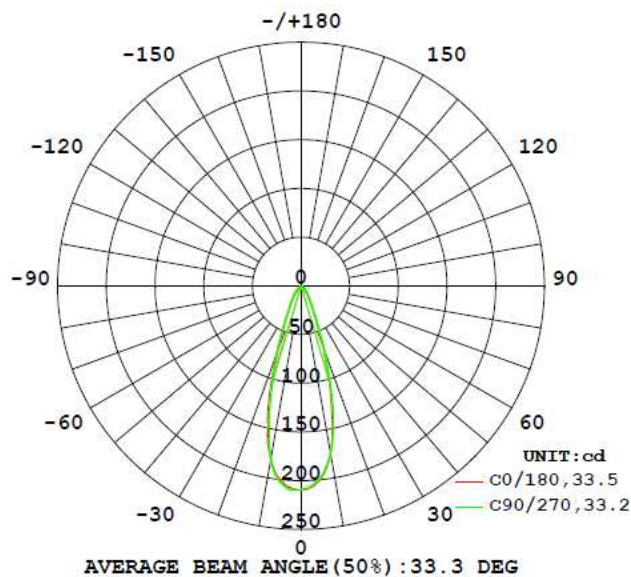
RESULTS OF TESTS (cont'd)

Intensity (Candlepower) Summary at 25°C – Candelas

Test Condition: 15V 60Hz for SL31

Setting: 4 (Medium light output)

G \ C(°)	0	22.5	45	67.5	90
0	209.14	209.14	209.14	209.14	209.14
5	201.77	200.51	199.59	199.87	200.49
10	174.98	172.31	171.49	172.13	174.56
15	120.12	117.78	118.44	120.60	125.11
20	65.98	64.24	64.87	66.35	68.75
25	32.58	32.77	33.49	33.93	34.82
30	19.46	19.20	19.86	19.76	20.05
35	12.59	13.11	13.20	13.28	13.34
40	6.48	8.43	9.37	9.47	9.57
45	2.98	4.60	6.54	6.69	6.77
50	1.53	2.48	4.24	4.77	4.84
55	0.56	1.30	2.55	3.38	3.53
60	0.25	0.55	1.42	2.20	2.51
65	0.01	0.23	0.68	1.21	1.54
70	0.00	0.04	0.23	0.54	0.74
75	0.00	0.00	0.03	0.14	0.22
80	0.00	0.00	0.00	0.00	0.02
85	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00



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

RESULTS OF TESTS (cont'd)

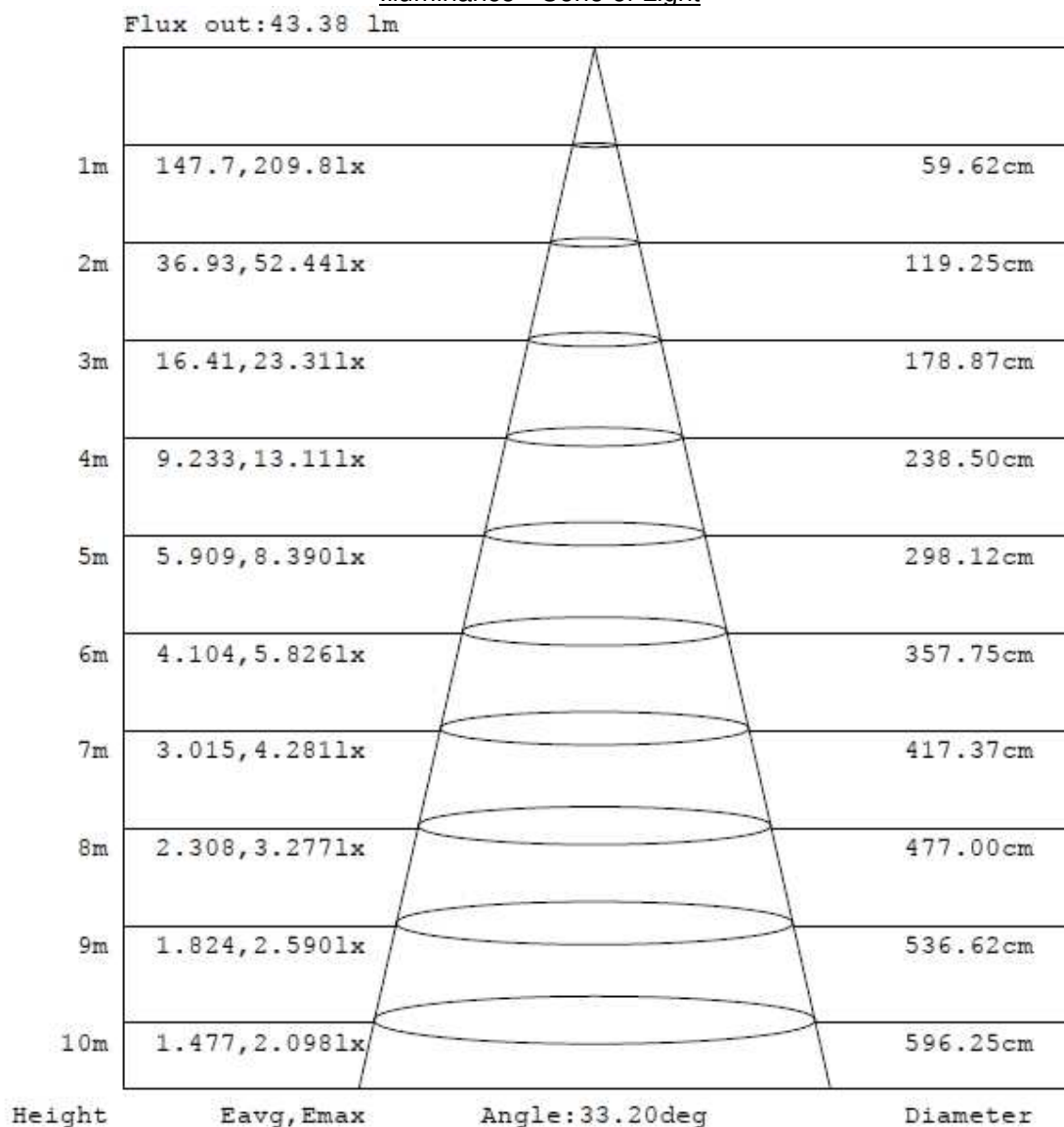
Test Condition: 15V 60Hz for SL31

Setting: 4 (Medium light output)

Illumination Plots

Model No.: SL31
Mount Height: 10 m

Illuminance - Cone of Light



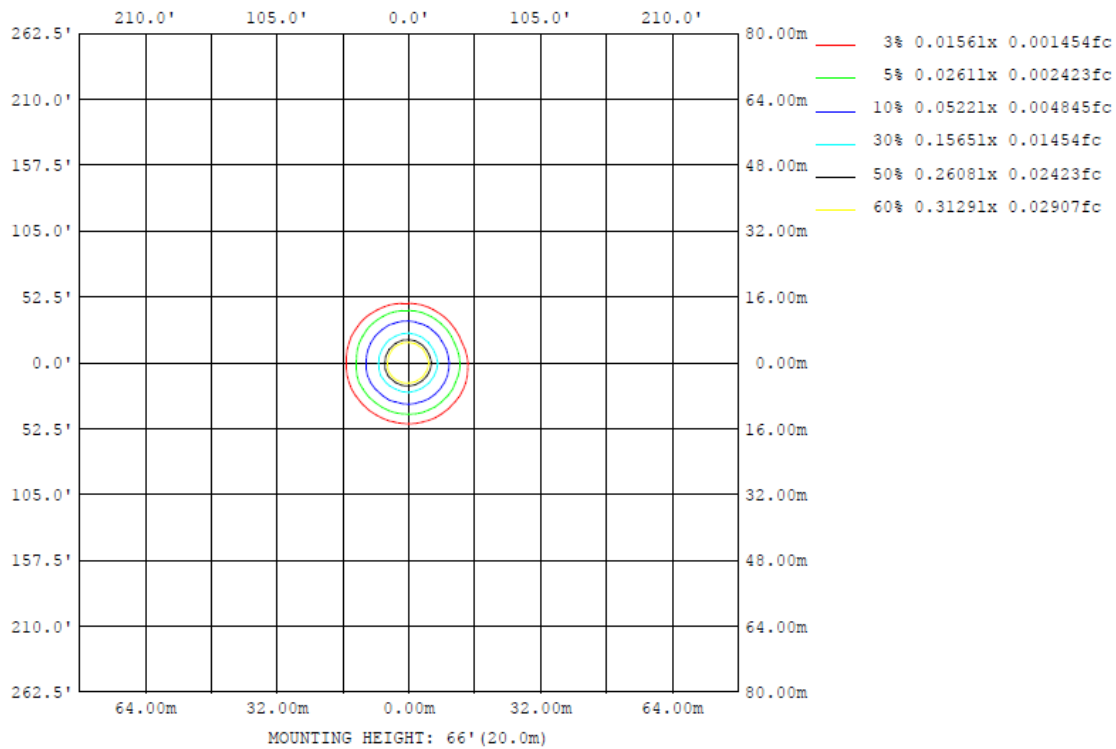
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL31
Setting: 4 (Medium light output)

Model No.: SL31
Mount Height: 20 m
Isoillumination Plot



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

RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL31

Setting: 4 (Medium light output)

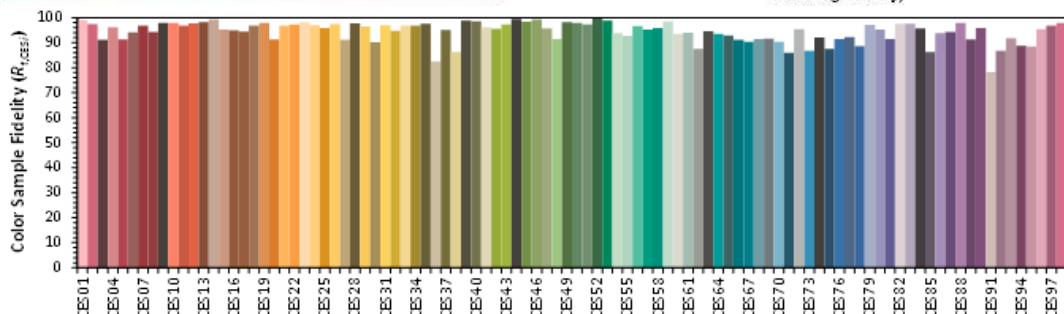
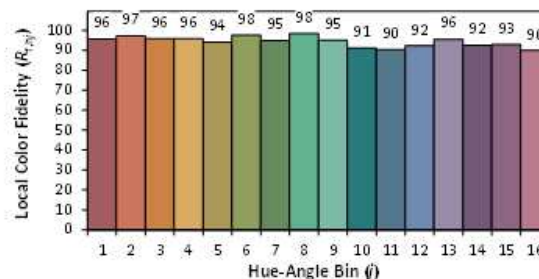
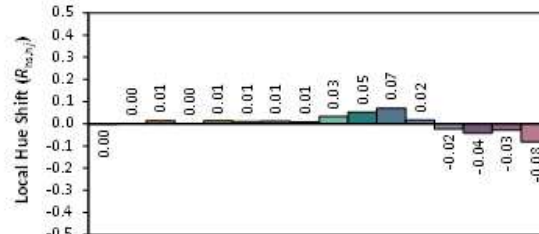
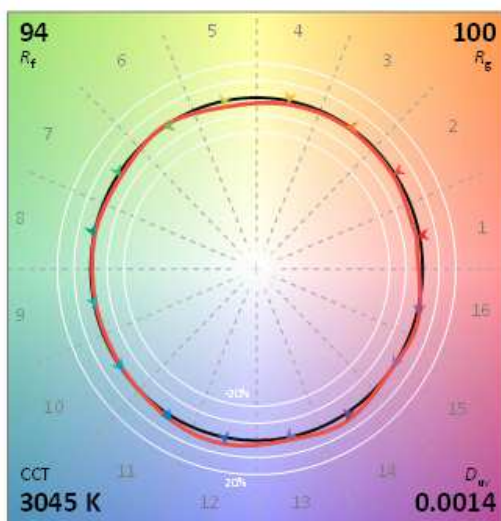
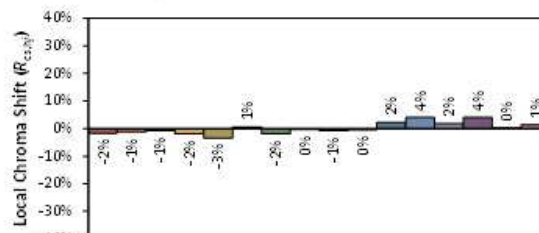
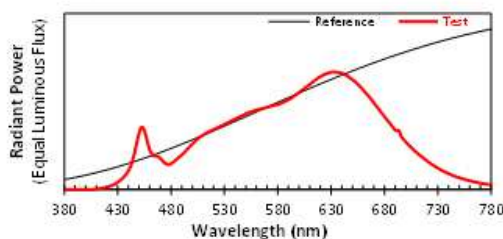
ANSI/IES TM-30-18 Color Rendition Report

Source: LED

Manufacturer: STERLING LIGHTING LLC

Date: 12/18/2023

Model: SL31



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

x 0.4358

y 0.4072

u' 0.2485

v' 0.5224

CIE 13.3-1995
(CRI)

R_a 97

R_g 86

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

RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL31

Setting: 5 (Minimum 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')
SL31							
0231201-15-012	N/A	3039	97	0.4361	0.4071	0.2487	0.5224

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)
SL31							
0231201-15-012	N/A	15.0	0.0695	0.5751	0.5521	33.8884	58.92

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	% Luminaire (%)
SL31		
0-30	27.90	82.3
0-40	31.21	92.1
0-60	33.54	99.0
0-90	33.89	100.0
0-180	33.89	100.00

Beam Angle

	Horizontal Spread (°)	Vertical Spread (°)
SL31		
Beam (50%)	33.5	33.3
Beam Angle	33.4	

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

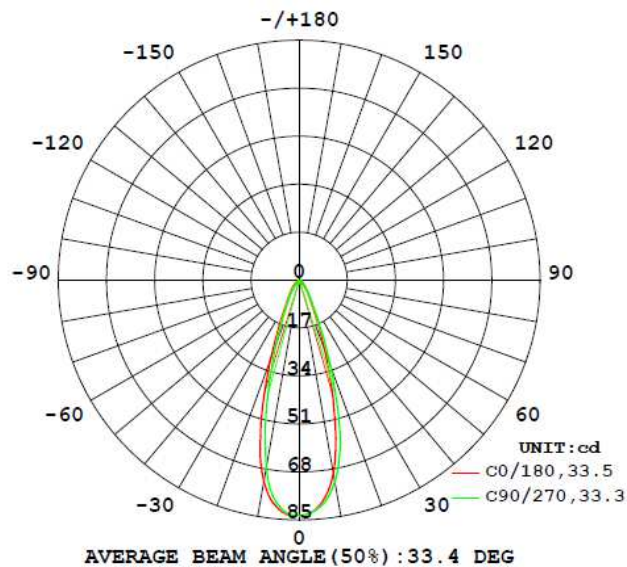
RESULTS OF TESTS (cont'd)

Intensity (Candlepower) Summary at 25°C – Candelas

Test Condition: 15V 60Hz for SL31

Setting: 5 (Minimum light output)

G \ C(°)	0	22.5	45	67.5	90
0	209.14	209.14	209.14	209.14	209.14
5	201.77	200.51	199.59	199.87	200.49
10	174.98	172.31	171.49	172.13	174.56
15	120.12	117.78	118.44	120.60	125.11
20	65.98	64.24	64.87	66.35	68.75
25	32.58	32.77	33.49	33.93	34.82
30	19.46	19.20	19.86	19.76	20.05
35	12.59	13.11	13.20	13.28	13.34
40	6.48	8.43	9.37	9.47	9.57
45	2.98	4.60	6.54	6.69	6.77
50	1.53	2.48	4.24	4.77	4.84
55	0.56	1.30	2.55	3.38	3.53
60	0.25	0.55	1.42	2.20	2.51
65	0.01	0.23	0.68	1.21	1.54
70	0.00	0.04	0.23	0.54	0.74
75	0.00	0.00	0.03	0.14	0.22
80	0.00	0.00	0.00	0.00	0.02
85	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00



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

RESULTS OF TESTS (cont'd)

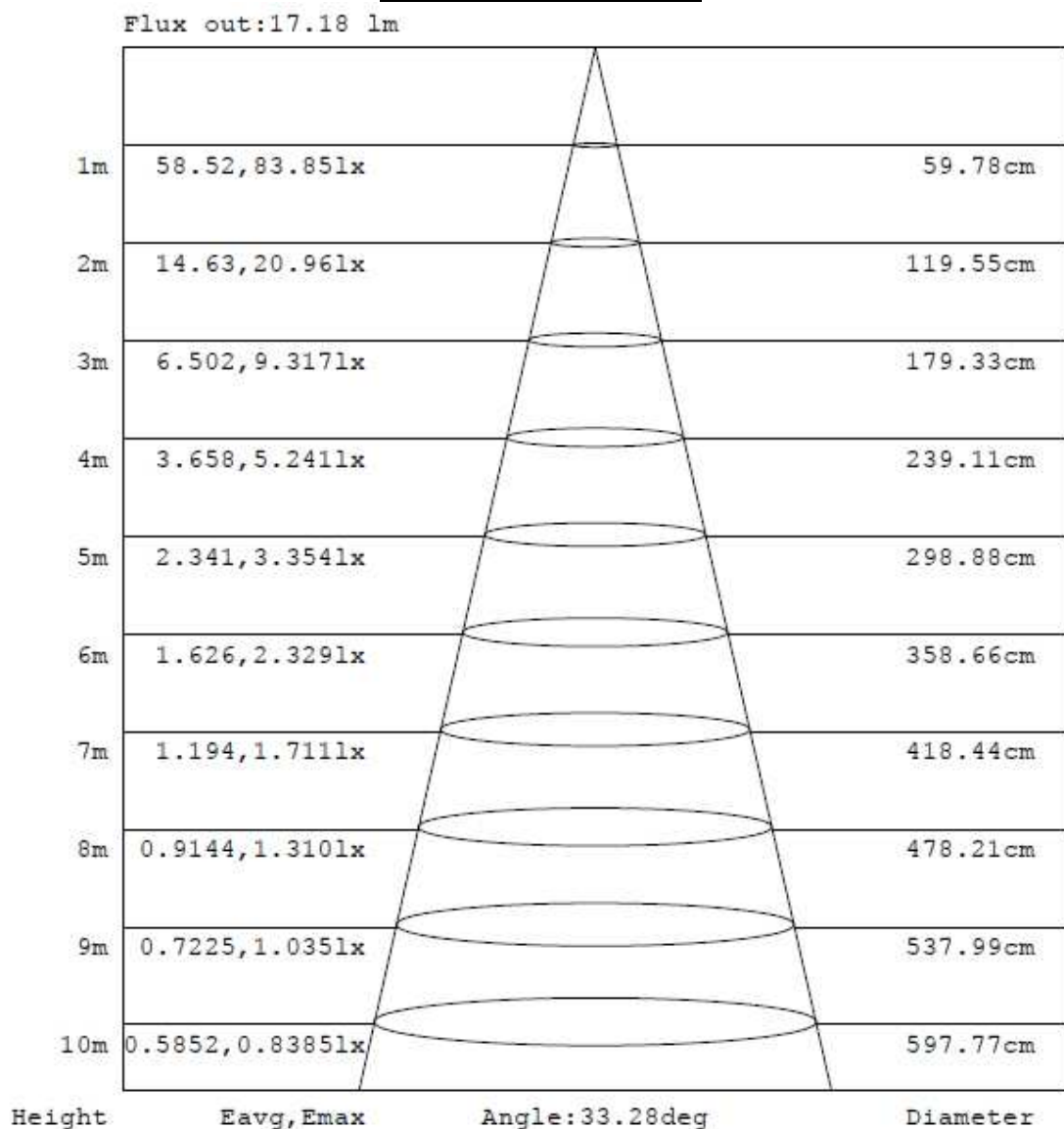
Test Condition: 15V 60Hz for SL31

Setting: 5 (Minimum light output)

Illumination Plots

Model No.: SL31
Mount Height: 10 m

Illuminance - Cone of Light



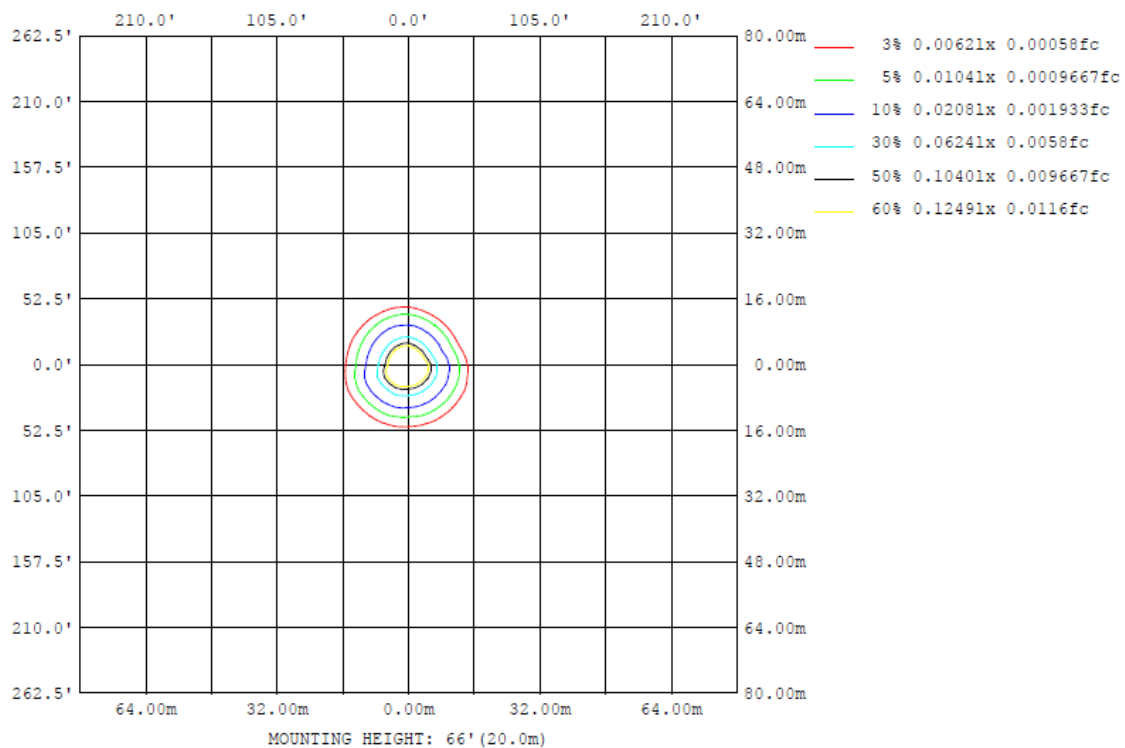
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL31
Setting: 5 (Minimum light output)

Model No.: SL31
Mount Height: 20 m
Isoillumination Plot



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

RESULTS OF TESTS (cont'd)

Test Condition: 15V 60Hz for SL31
Setting: 5 (Minimum light output)

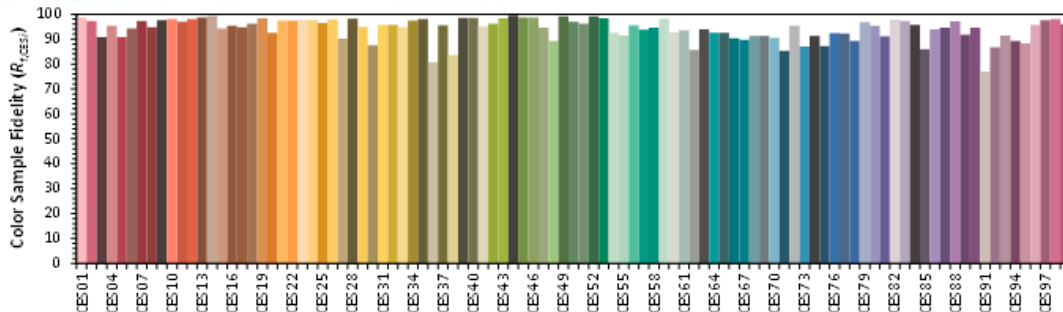
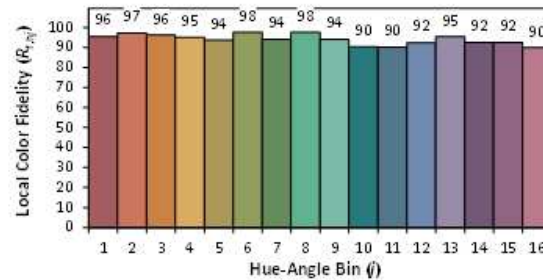
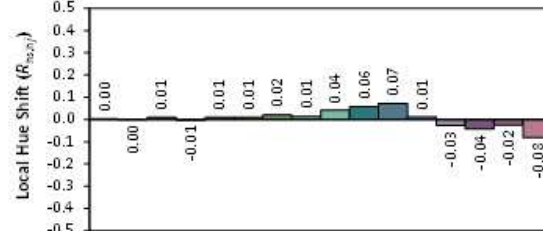
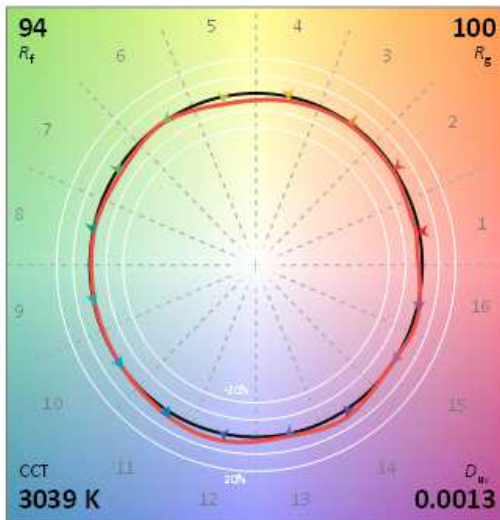
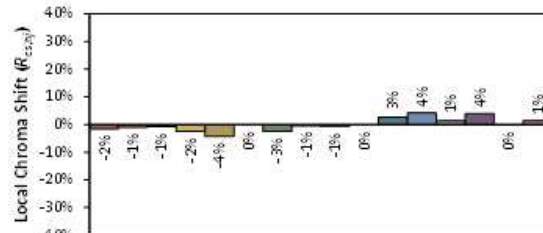
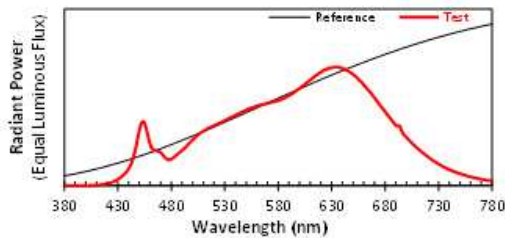
ANSI/IES TM-30-18 Color Rendition Report

Source: LED

Manufacturer: STERLING LIGHTING LLC

Date: 12/18/2023

Model: SL31



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

x 0.4361
y 0.4071
u' 0.2487
v' 0.5224

CIE 13.3-1995
(CRI)

R_a 97
R_g 87

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

RESULTS OF TESTS (cont'd)

IN SITU TEMPERATURE MEASUREMENT TEST

Test Results of LED chip temperature and current

TMP led: CXA1304	
In-situ case temperature of LED source (°C)	Limit single led chip temperature(°C)
37.3	85
Measured Drive current for each LED package/array/module (mA)	Limit single led chip current (mA)
125	692

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

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

RESULTS OF TESTS (cont'd)

IN SITU TEMPERATURE MEASUREMENT TEST

Lumen Maintenance Life Projection (Cont'd) - led chip point 1

The Calculation is based on the Illumination Engineering Society's TM-21-11: Projecting Long Term Lumen Maintenance of LED Light Sources.

Table 1: Report at each LM-80 Test Condition					
Description of LED Light Source Tested (manufacturer, model, catalog number)		Manufacturer: Cree LED Model: CXA1304 Report No: CLD-AP144 Rev5 Issued: Jun. 11, 201			
Test Condition 1 - 85°C Case Temp					
Sample size	25	Sample size	-	Sample size	-
Number of failures	0	Number of failures	-	Number of failures	-
DUT drive current used in the test (mA)	692	DUT drive current used in the test (mA)	-	DUT drive current used in the test (mA)	-
Test duration (hours)	7,056	Test duration (hours)	-	Test duration (hours)	-
Test duration used for projection (hour to hour)	2,016 - 7,056	Test duration used for projection (hour to hour)	-	Test duration used for projection (hour to hour)	-
Tested case temperature (°C)	85	Tested case temperature (°C)	-	Tested case temperature (°C)	-
α	2.424E-06	α	-	α	-
B	0.985	B	-	B	-
Reported L70(7k) (hours)	>42000	Reported L70(7k) (hours)	-	Reported L70(7k) (hours)	-

Table 2: Interpolation Report (projection based on <i>in-situ</i> temperature entered)	
$T_{s,1}$ (°C)	85.00
$T_{s,1}$ (K)	358.15
α_1	2.424E-06
B_1	0.985
$T_{s,2}$ (°C)	-
$T_{s,2}$ (K)	-
α_2	-
B_2	-
E_{90}/K_0	-
A	-
B_0	0.985
$T_{s,i}$ (°C)	37.30
$T_{s,i}$ (K)	310.45
α_i	2.424E-06
Reported L70(7k) at 37.3°C (hours)	>42000

In-Situ Inputs	
Drive current for each LED package/array/module (mA):	125
In-situ case temperature (T_c , °C):	37.3
Percentage of initial lumens to project to (e.g. for L ₇₀ , enter 70):	70
Results	
Time (t) at which to estimate lumen maintenance (hours):	50,000
Lumen maintenance at time (t) (%):	87.30%
Reported L70 (hours):	>42000

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