

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: io LED

Report Number: P1191992

Luminaire Tested: **LDA6A10950D010TE LARL20NF 6LAL1 30° Tilt**

Issue Date: 3/3/2020

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

**Test Information**

Test Method: LM-41-14
Report Number: P1191992
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26268)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA6A10950D010TE LARL20NF 6LAL1 30° Tilt
Description: PORTFOLIO 6" Lensed Adjustable, Self-flange Trim Ring, 20° Narrow Flood Optic, at 30° tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

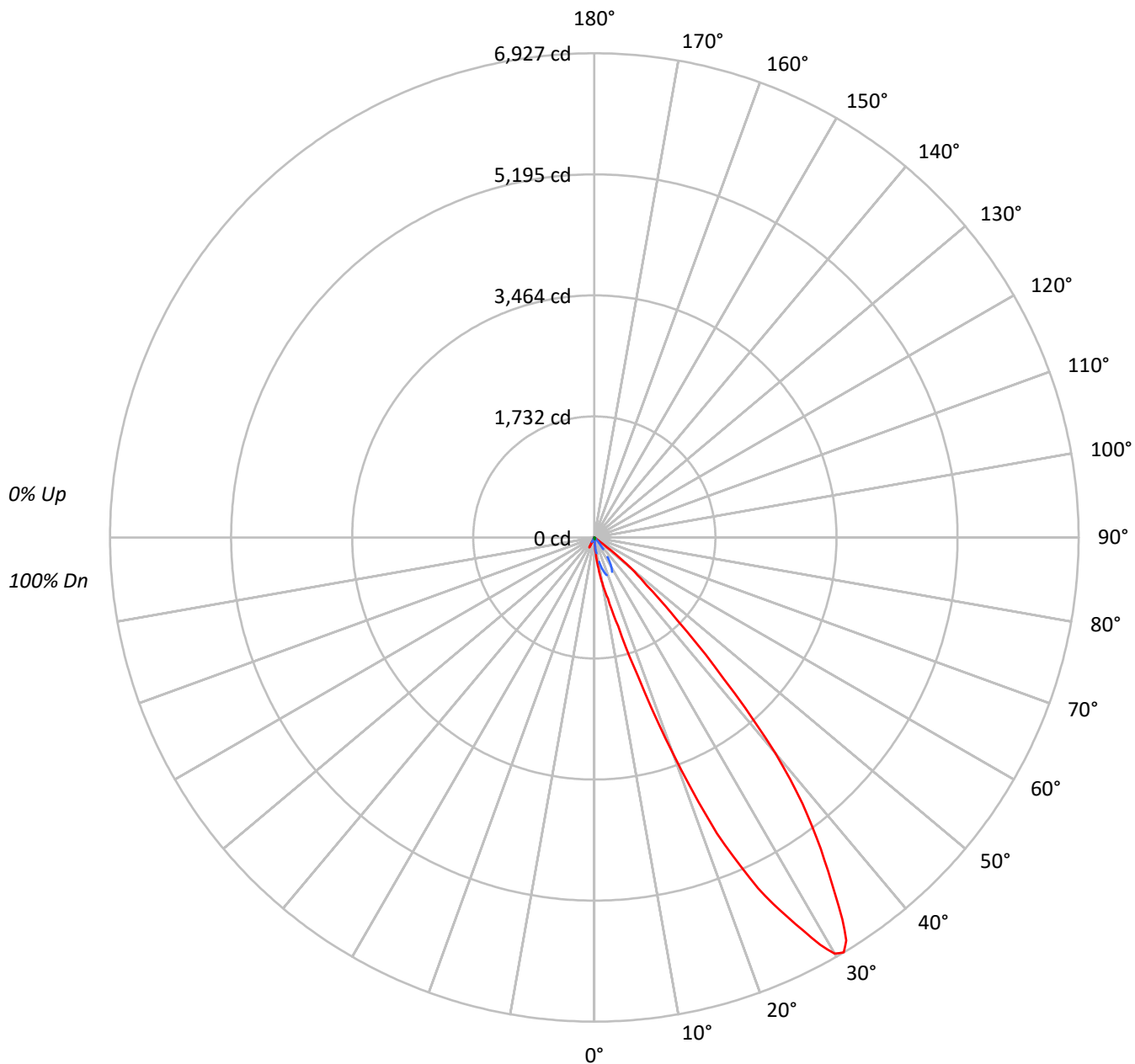
Lumens per Lamp: N/A
Luminaire Lumens: 1055.2 lumens
Efficiency: N/A
Efficacy: 85.1 lumens/watt
Spacing Criteria (0/90/45): 2.7 / 0.43 / 1.35
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

Input Watts (W): 12.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT

TEST NUMBER: P1191992

CATALOG NUMBER: LDA6A10950D010TE LARL20NF 6LAL1 30° Tilt

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P1191992

CATALOG NUMBER: LDA6A10950D010TE LARL20NF 6LAL1 30° Tilt

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20					20					20					20
RC	80				70					50					30					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	112	109	106	104	110	107	104	102	103	101	99	99	97	96	96	94	93	91		
2	105	100	95	91	103	98	93	90	94	91	88	91	88	86	89	86	84	82		
3	99	91	85	80	96	89	84	79	87	82	78	84	80	77	82	78	76	74		
4	92	83	76	71	90	82	75	70	79	74	70	77	72	69	75	71	68	66		
5	86	75	68	63	84	74	68	63	73	67	62	71	66	62	69	65	61	59		
6	80	69	62	56	78	68	61	56	66	60	56	65	59	55	63	59	55	53		
7	74	63	56	50	73	62	55	50	61	55	50	59	54	50	58	53	49	48		
8	69	58	50	45	68	57	50	45	56	49	45	55	49	45	54	48	44	43		
9	65	53	46	41	63	52	45	41	51	45	40	50	44	40	49	44	40	39		
10	60	49	41	37	59	48	41	37	47	41	37	46	41	36	45	40	36	35		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	1305	1305	1305
5°	12695	1156	473
10°	37535	824	301
15°	74524	556	261
20°	192231	455	356
25°	335015	544	2583
30°	435175	570	1456
35°	389927	248	134
40°	288269	86	0
45°	129820	93	0
50°	58565	102	0
55°	5228	115	0
60°	636	132	0
65°	259	221	0
70°	192	272	0
75°	0	360	0
80°	0	537	126
85°	0	1069	252



TEST NUMBER: P1191992

CATALOG NUMBER: LDA6A10950D010TE LARL20NF 6LAL1 30° Tilt

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	9.5	0.9
10°-20°	88.9	8.4
20°-30°	350.9	33.3
30°-40°	423.4	40.1
40°-50°	164.3	15.6
50°-60°	14.4	1.4
60°-70°	1.4	0.1
70°-80°	1.3	0.1
80°-90°	1.2	0.1
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	449.2	42.6
0°-40°	872.6	82.7
0°-60°	1051.3	99.6
0°-90°	1055.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1055.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	24	24	24	24	24	
5°	231	113	21	10	9	37
15°	1313	497	10	6	5	481
25°	5539	588	9	29	43	2533
35°	5826	299	4	4	2	3581
45°	1674	21	1	1	0	1471
55°	55	2	1	1	0	132
65°	2	2	2	1	0	2
75°	0	2	2	2	0	0
85°	0	2	2	2	0	0
90°	0	0	0	0	0	

TEST NUMBER: P1191992

CATALOG NUMBER: LDA6A10950D010TE LARL20NF 6LAL1 30° Tilt

CANDELA DISTRIBUTION (FULL):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	25°
0°	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8
2.5°	74.8	71.1	67.0	68.6	69.6	71.6	70.0	63.8	67.4	64.6	62.2
5°	230.7	226.5	218.7	220.0	217.6	220.4	213.9	200.7	203.1	199.1	188.3
7.5°	449.8	432.6	419.8	420.7	413.3	416.6	404.2	381.7	379.1	358.3	354.8
10°	674.3	665.7	650.5	648.5	635.3	637.0	617.6	587.6	579.4	555.2	541.2
12.5°	894.8	880.5	859.0	854.5	833.0	833.5	807.2	773.4	761.1	736.1	716.8
15°	1313.1	1292.5	1243.5	1224.9	1165.7	1156.8	1091.8	1015.2	978.2	935.1	878.3
17.5°	2084.8	2071.8	1975.9	1922.9	1802.7	1683.6	1613.1	1447.9	1351.3	1230.3	1125.5
20°	3295.1	3319.3	3151.9	3033.6	2810.7	2559.0	2381.3	2080.4	1879.3	1670.8	1473.4
22.5°	4582.2	4592.4	4420.9	4273.4	4013.9	3668.0	3258.9	2893.7	2525.2	2167.2	1841.4
25°	5538.6	5509.1	5320.3	5143.0	4870.1	4516.8	4119.1	3631.4	3127.8	2636.0	2158.9
26°	5830.6	5814.5	5625.4	5413.3	5112.6	4753.9	4340.3	3848.1	3316.0	2786.4	2256.0
27°	6101.2	6090.9	5885.7	5649.6	5312.9	4937.5	4504.4	4012.6	3458.3	2902.7	2326.3
28°	6375.5	6364.0	6115.6	5841.7	5475.7	5067.8	4618.0	4122.4	3550.0	2971.1	2355.5
29°	6665.4	6643.2	6325.7	5982.7	5584.3	5143.8	4677.2	4172.6	3581.2	2987.8	2348.1
30°	6874.7	6840.1	6477.4	6072.0	5628.6	5167.8	4683.7	4171.3	3562.0	2952.9	2300.7
31°	6927.3	6892.3	6519.9	6070.8	5596.2	5131.6	4636.4	4113.0	3481.3	2868.2	2220.9
32°	6799.7	6767.8	6412.5	5932.2	5493.5	5044.4	4542.2	4004.8	3356.3	2741.5	2112.8
33°	6515.3	6491.1	6184.6	5750.0	5346.1	4920.7	4407.4	3851.1	3178.8	2580.3	1985.8
34°	6156.2	6138.6	5902.9	5535.8	5159.5	4750.7	4232.6	3648.3	2944.7	2397.8	1847.1
35°	5826.5	5813.3	5622.6	5296.9	4946.0	4540.6	4011.4	3398.7	2703.8	2201.2	1699.2
36°	5509.1	5497.9	5332.2	5029.6	4691.1	4294.4	3733.0	3100.1	2445.0	1997.2	1545.8
37°	5177.5	5167.8	5025.5	4737.6	4404.5	3999.8	3402.5	2782.3	2182.3	1793.7	1388.3
38°	4833.9	4825.5	4695.2	4408.2	4070.2	3640.0	3025.3	2453.7	1926.1	1595.2	1246.8
39°	4450.1	4443.1	4323.1	4022.1	3661.0	3216.1	2637.1	2133.4	1683.1	1402.2	1109.8
40°	4028.2	4018.8	3898.6	3562.4	3197.6	2779.7	2264.1	1839.3	1453.6	1222.1	989.4
42.5°	2738.7	2728.3	2639.2	2443.5	2092.2	1823.7	1500.6	1231.2	1030.0	890.7	770.6
45°	1674.5	1675.8	1628.7	1508.0	1296.5	1147.3	971.7	843.0	752.5	699.1	615.6
47.5°	1012.9	1012.9	991.8	930.2	835.2	775.5	702.7	642.7	573.6	521.0	430.6
50°	686.7	687.1	655.1	658.3	595.0	558.0	488.6	415.3	347.5	270.9	193.3
51°	508.2	510.7	481.2	494.6	425.3	393.8	328.1	266.0	205.9	146.7	84.8
52°	310.9	315.4	295.3	307.6	267.3	221.7	168.2	124.2	83.5	58.3	40.8
53°	144.4	148.0	137.8	143.5	119.7	93.4	70.7	57.6	46.0	37.4	27.6
54°	76.5	77.4	73.9	72.4	65.8	57.9	48.2	39.9	31.2	25.1	18.5
55°	54.7	54.7	53.0	51.4	46.0	39.4	32.0	27.1	20.6	16.4	12.0
57.5°	16.8	16.8	16.8	16.0	14.0	12.0	9.5	8.2	6.6	6.1	5.0
60°	5.8	5.8	5.8	5.4	5.0	4.6	4.2	3.7	3.2	3.2	2.8
61°	4.2	4.2	4.2	4.2	3.7	3.7	3.2	2.8	2.4	2.8	2.4
62°	3.2	3.7	3.2	3.2	3.2	2.8	2.4	2.4	2.0	2.4	2.0
63°	2.8	2.8	2.8	2.8	2.4	2.4	2.0	2.0	1.7	2.0	2.0
64°	2.4	2.4	2.4	2.4	2.0	2.0	1.7	1.7	1.2	1.7	1.7
65°	2.0	2.0	2.0	2.0	1.7	1.7	1.7	1.2	1.2	1.7	1.7
66°	1.7	1.7	1.7	1.7	1.7	1.2	1.2	1.2	0.8	1.2	1.2

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P1191992

CATALOG NUMBER: LDA6A10950D010TE LARL20NF 6LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	25°
72.5°	0.8	0.8	0.8	0.8	0.4	0.4	0.4	0.4	0.4	0.8	0.8
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P1191992

CATALOG NUMBER: LDA6A10950D010TE LARL20NF 6LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	67.5°	90°	112.5°
0°	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8
2.5°	59.6	55.5	54.7	54.7	46.0	47.7	44.8	42.7	30.0	23.0	17.3
5°	182.1	167.3	161.2	155.9	132.4	130.3	116.0	112.7	40.4	21.0	13.2
7.5°	339.7	317.1	302.6	288.7	250.8	240.6	215.9	209.8	54.7	17.6	10.2
10°	519.0	486.4	461.4	428.1	379.1	357.7	321.5	308.5	66.6	14.8	9.8
12.5°	687.5	650.5	616.4	572.4	506.2	472.1	424.4	407.5	71.1	12.4	9.0
15°	833.0	783.7	741.5	694.1	620.2	577.0	518.5	496.8	67.4	9.8	7.8
17.5°	1017.7	934.2	860.7	794.5	713.9	661.1	593.4	558.0	54.7	8.6	7.0
20°	1290.8	1122.6	993.0	886.2	774.3	709.0	633.8	590.9	39.4	7.8	7.0
22.5°	1547.8	1307.7	1109.0	956.1	805.5	727.5	649.4	602.0	28.0	7.8	8.2
25°	1757.5	1447.1	1189.1	1002.1	822.8	731.1	643.6	587.6	21.8	9.0	16.0
26°	1816.3	1481.6	1204.9	1005.8	820.4	725.7	633.8	574.4	19.3	12.4	30.0
27°	1852.9	1497.2	1205.4	1000.1	811.3	715.1	618.9	556.8	16.8	18.9	50.5
28°	1860.2	1489.8	1191.3	984.0	795.7	700.8	602.4	535.4	15.6	23.8	57.6
29°	1840.1	1463.5	1165.7	960.6	776.8	683.5	582.7	512.0	13.6	18.2	37.4
30°	1794.9	1419.9	1128.4	930.6	756.7	664.1	558.4	484.0	11.1	9.0	16.8
31°	1727.1	1359.9	1082.3	895.2	734.0	639.4	529.3	452.8	9.5	6.1	9.8
32°	1641.1	1287.9	1031.0	859.0	708.6	609.3	495.0	417.9	8.6	5.0	8.2
33°	1542.4	1212.3	977.8	822.4	678.1	573.6	458.4	380.4	7.8	5.4	8.2
34°	1434.7	1135.0	917.8	784.2	642.7	534.6	419.4	336.4	7.0	5.0	6.1
35°	1317.9	1054.8	863.9	750.5	602.8	492.2	379.5	298.9	6.1	3.7	4.2
36°	1217.1	976.7	811.7	707.7	559.2	448.7	338.4	258.6	5.4	2.4	2.8
37°	1107.4	903.4	763.3	663.3	512.4	403.8	297.3	218.7	5.0	1.7	2.4
38°	1005.1	836.1	714.7	612.4	464.3	358.6	255.3	179.7	4.6	1.7	2.0
39°	912.1	774.7	669.6	558.0	413.6	311.3	213.0	141.1	4.2	1.2	2.0
40°	832.3	720.1	615.2	500.9	361.5	264.5	170.7	104.4	3.7	1.2	2.0
42.5°	676.9	577.7	464.3	354.0	233.9	149.8	76.5	38.2	2.8	1.2	1.7
45°	517.4	411.2	306.3	213.0	120.5	57.9	28.4	21.0	2.4	1.2	1.7
47.5°	335.9	246.7	164.5	93.0	40.4	23.4	14.8	10.6	2.0	1.2	1.7
50°	124.2	68.6	36.2	22.6	15.6	9.8	6.6	6.1	2.0	1.2	1.7
51°	51.0	33.4	22.6	15.2	9.8	7.0	5.4	5.4	2.0	1.2	1.7
52°	30.4	21.0	15.2	11.1	7.4	5.4	4.2	4.6	2.0	1.2	1.7
53°	20.2	14.4	11.1	8.6	5.8	4.2	2.8	3.2	2.0	1.2	1.7
54°	13.6	10.2	8.2	6.6	4.2	3.2	1.7	2.8	1.7	1.2	1.7
55°	9.5	7.4	6.1	5.0	2.8	2.0	1.2	2.4	1.7	1.2	1.7
57.5°	4.2	3.7	3.2	2.8	1.2	0.8	0.4	2.0	1.7	1.2	1.7
60°	2.8	2.4	2.0	2.0	0.4	0.4	0.0	1.7	1.7	1.2	1.7
61°	2.4	2.0	2.0	1.7	0.4	0.4	0.0	1.7	2.0	1.2	1.7
62°	2.0	2.0	1.7	1.7	0.4	0.0	0.0	1.7	2.0	1.2	2.0
63°	1.7	1.7	1.7	1.7	0.4	0.0	0.0	1.7	2.0	1.2	2.0
64°	1.7	1.7	1.7	1.7	0.0	0.0	0.0	1.7	2.0	1.2	2.0
65°	1.7	1.2	1.2	1.2	0.0	0.0	0.0	1.7	2.0	1.7	2.0
66°	1.2	1.2	1.2	1.2	0.0	0.0	0.0	1.7	2.0	1.7	2.0



TEST NUMBER: P1191992

CATALOG NUMBER: LDA6A10950D010TE LARL20NF 6LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	67.5°	90°	112.5°
72.5°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	1.2	2.0	1.7	2.4
75°	0.4	0.8	0.8	0.8	0.0	0.0	0.0	1.7	2.0	1.7	2.4
77.5°	0.4	0.8	0.8	0.8	0.0	0.0	0.0	1.7	2.0	1.7	2.4
80°	0.4	0.8	0.8	0.8	0.0	0.0	0.0	1.7	2.0	1.7	2.4
82.5°	0.4	0.8	0.8	0.8	0.0	0.0	0.0	1.7	2.0	1.7	2.4
85°	0.4	0.8	0.8	0.8	0.0	0.0	0.0	1.7	2.0	1.7	2.4
87.5°	0.4	0.8	0.8	0.8	0.0	0.0	0.0	1.7	2.0	1.7	2.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P1191992

CATALOG NUMBER: LDA6A10950D010TE LARL20NF 6LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
0°	23.8	23.8	23.8
2.5°	14.4	13.2	12.4
5°	10.2	9.5	8.6
7.5°	8.6	7.4	7.0
10°	7.8	5.8	5.4
12.5°	6.6	5.0	4.6
15°	6.1	5.0	4.6
17.5°	6.1	5.0	4.6
20°	6.6	6.1	6.1
22.5°	9.5	10.2	10.6
25°	28.8	37.0	42.7
26°	67.4	101.2	135.7
27°	102.3	149.3	159.1
28°	92.1	106.9	104.0
29°	44.4	50.1	45.6
30°	19.8	23.4	23.0
31°	12.8	14.4	14.0
32°	10.6	9.8	9.5
33°	8.6	7.0	5.8
34°	5.8	4.6	3.7
35°	3.7	2.4	2.0
36°	2.4	1.2	0.8
37°	1.7	0.8	0.4
38°	1.7	0.4	0.0
39°	1.2	0.4	0.0
40°	1.2	0.4	0.0
42.5°	1.2	0.0	0.0
45°	0.8	0.0	0.0
47.5°	0.8	0.0	0.0
50°	1.2	0.4	0.0
51°	1.2	0.0	0.0
52°	1.2	0.0	0.0
53°	0.8	0.0	0.0
54°	0.8	0.0	0.0
55°	0.8	0.0	0.0
57.5°	0.8	0.0	0.0
60°	0.8	0.0	0.0
61°	1.2	0.0	0.0
62°	1.2	0.0	0.0
63°	1.2	0.0	0.0
64°	1.2	0.4	0.0
65°	1.2	0.4	0.0
66°	1.2	0.4	0.0



TEST NUMBER: P1191992

CATALOG NUMBER: LDA6A10950D010TE LARL20NF 6LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	1.7	0.4	0.0
75°	1.7	0.4	0.0
77.5°	1.7	0.4	0.0
80°	1.7	0.8	0.4
82.5°	1.7	0.8	0.4
85°	1.7	0.8	0.4
87.5°	1.7	0.8	0.4
90°	0.0	0.0	0.0

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



Report Generated By 670245859 / DESKTOP-T8S5UU9

Classified

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269

Scaled Data Report





— 0°-180° - - 45°-225° - - - 90°-270°

Classified

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269

Scaled Data Report



Classified

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269

Scaled Data Report





67.5°	1.2	1.2	1.2	1.2	1.2	1.2	0.8	0.8	0.8	1.2	1.2
70°	1.2	1.2	0.8	0.8	0.8	0.8	0.8	0.4	0.4	1.2	1.2

Classified

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269

Scaled Data Report





67.5°	1.2	1.2	1.2	1.2	0.0	0.0	0.0	1.7	2.0	1.7	2.0
70°	1.2	1.2	1.2	1.2	0.0	0.0	0.0	1.7	2.0	1.7	2.4

Classified

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269

Scaled Data Report



Classified
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



67.5°	1.7	0.4	0.0
70°	1.7	0.4	0.0

Classified

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)