

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: P1192158

Luminaire Tested: **LDA6A35940D010TE LARL15SP 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: P1192158
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26267)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA6A35940D010TE LARL15SP 6LAL1 30° Tilt
Description: PORTFOLIO 6" Lensed Adjustable, Self-flange Trim Ring, 15° Spot
Optic, at 30° tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

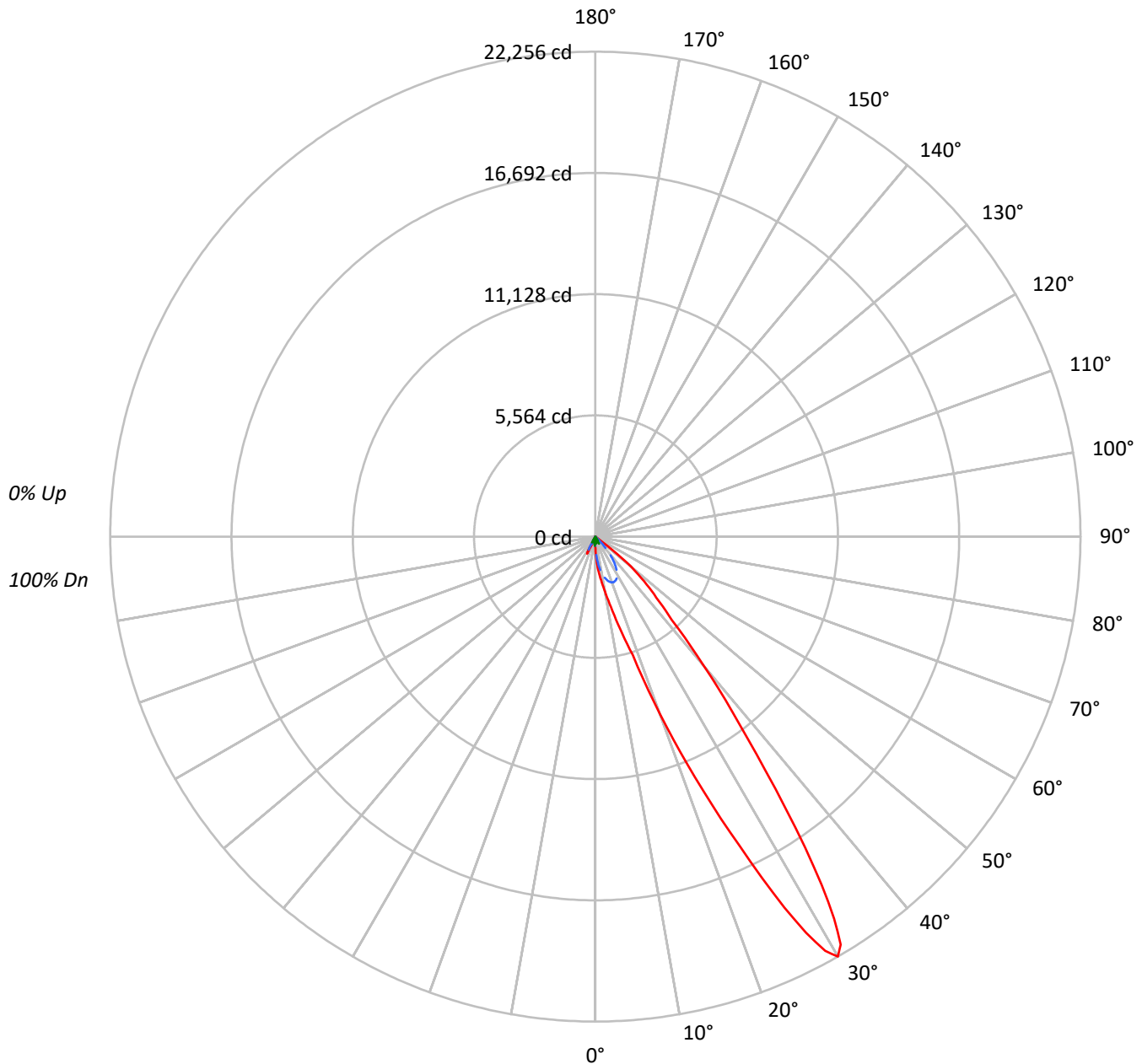
Lumens per Lamp: N/A
Luminaire Lumens: 3079.8 lumens
Efficiency: N/A
Efficacy: 64.6 lumens/watt
Spacing Criteria (0/90/45): 2.44 / 0.33 / 1.32
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

Input Watts (W): 47.7
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: P1192158

CATALOG NUMBER: LDA6A35940D010TE LARL15SP 6LAL1 30° Tilt

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P1192158

CATALOG NUMBER: LDA6A35940D010TE LARL15SP 6LAL1 30° Tilt

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20					20					20					20
RC	80				70					50					30					10
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	113	109	106	104	110	107	105	102	103	101	99	99	98	96	96	95	93	91		
2	106	100	95	91	103	98	94	90	95	91	88	92	89	86	89	87	85	83		
3	99	91	86	81	97	90	85	80	87	83	79	85	81	78	82	79	76	75		
4	93	84	77	72	91	82	76	72	80	75	71	78	74	70	76	72	69	67		
5	87	77	70	64	85	76	69	64	74	68	64	72	67	63	70	66	62	61		
6	81	70	63	58	79	69	63	58	68	62	57	66	61	57	65	60	56	55		
7	75	64	57	52	74	64	57	52	62	56	52	61	55	51	60	55	51	49		
8	71	59	52	47	69	59	52	47	57	51	47	56	51	47	55	50	46	45		
9	66	55	47	43	65	54	47	43	53	47	42	52	46	42	51	46	42	41		
10	62	50	43	39	61	50	43	39	49	43	39	48	42	38	47	42	38	37		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	24845	24845	24845
5°	84988	21126	2823
10°	142237	11734	1386
15°	247067	4325	1175
20°	504767	2835	2030
25°	947516	5535	35815
30°	1408799	9647	5792
35°	1016695	743	462
40°	552220	301	0
45°	306528	326	0
50°	179372	358	0
55°	5706	258	0
60°	1974	460	0
65°	895	545	0
70°	673	673	0
75°	318	1144	0
80°	0	1705	0
85°	0	3397	0



TEST NUMBER: P1192158

CATALOG NUMBER: LDA6A35940D010TE LARL15SP 6LAL1 30° Tilt

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.5	2.1
10°-20°	329.8	10.7
20°-30°	1061.3	34.5
30°-40°	1104.8	35.9
40°-50°	470.7	15.3
50°-60°	39.1	1.3
60°-70°	4.0	0.1
70°-80°	3.5	0.1
80°-90°	3.2	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°	1454.5	47.2
0°-40°	2559.3	83.1
0°-60°	3069.1	99.7
0°-90°	3079.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3079.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	453	453	453	453	453	
5°	1544	1126	384	69	51	176
15°	4353	2073	76	26	21	1423
25°	15665	2207	92	276	592	7523
35°	15192	1576	11	10	7	9405
45°	3954	270	4	3	0	3252
55°	60	8	3	3	0	372
65°	7	4	4	3	0	8
75°	2	4	5	4	0	1
85°	0	4	5	4	0	0
90°	0	0	0	0	0	

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P1192158

CATALOG NUMBER: LDA6A35940D010TE LARL15SP 6LAL1 30° Tilt

CANDELA DISTRIBUTION (FULL):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	25°
0°	453.2	453.2	453.2	453.2	453.2	453.2	453.2	453.2	453.2	453.2	453.2
2.5°	1006.6	953.8	994.0	970.6	955.3	951.1	974.5	948.4	920.5	919.3	910.9
5°	1544.4	1494.6	1536.0	1500.0	1483.5	1469.7	1480.5	1437.6	1392.0	1393.2	1372.5
7.5°	2012.9	1985.3	2012.9	1974.2	1961.6	1947.8	1943.6	1902.2	1848.0	1852.1	1820.3
10°	2555.2	2474.8	2518.9	2434.6	2413.6	2376.2	2363.8	2295.8	2209.9	2205.8	2159.9
12.5°	3302.3	3270.5	3314.9	3195.6	3170.7	3106.8	3072.3	2964.0	2822.7	2786.7	2681.2
15°	4353.3	4250.7	4295.1	4127.2	4080.1	3969.1	3892.9	3725.2	3590.6	3438.2	3277.4
17.5°	5688.4	5630.2	5686.9	5356.9	5234.9	5018.6	4839.8	4559.7	4274.2	4137.1	3910.9
20°	8652.4	8375.2	8405.5	7792.8	7401.9	6819.5	6353.7	5735.5	5168.3	4842.6	4469.7
22.5°	11942.2	11626.3	11548.6	10761.0	10098.4	9223.5	8405.5	7371.3	6366.2	5638.3	5006.3
25°	15664.7	15459.5	15053.4	13764.0	12624.5	11376.7	10173.4	8820.1	7516.8	6402.2	5454.1
26°	17432.3	17267.3	16657.2	15045.0	13569.9	12076.8	10701.6	9248.6	7842.8	6620.0	5559.4
27°	19111.3	18978.1	18185.1	16308.0	14464.0	12667.4	11085.5	9553.4	8077.1	6760.0	5634.4
28°	20590.6	20454.7	19430.1	17378.2	15172.5	13094.2	11326.7	9743.5	8211.5	6793.3	5630.2
29°	21741.2	21569.3	20246.6	18064.5	15588.5	13299.6	11375.2	9767.0	8192.0	6715.7	5552.5
30°	22255.6	22042.0	20479.6	18211.5	15595.4	13222.0	11237.9	9641.0	8034.2	6532.7	5408.2
31°	21852.1	21670.4	20056.7	17787.3	15172.5	12866.9	10896.9	9349.7	7734.6	6267.8	5216.9
32°	20676.4	20510.0	19022.5	16855.5	14372.6	12266.7	10401.9	8933.7	7336.8	5947.5	4995.2
33°	19064.2	18935.2	17601.4	15575.9	13345.3	11527.6	9810.1	8412.4	6858.4	5588.5	4724.7
34°	17224.4	17123.3	15905.9	14129.9	12223.8	10707.0	9135.0	7662.6	6335.7	5226.7	4522.5
35°	15192.0	15122.7	14129.9	12645.2	11107.7	9854.3	8384.8	6999.7	5808.9	4878.6	4304.7
36°	13260.7	13204.0	12446.9	11283.8	10045.6	8969.7	7572.3	6309.5	5304.2	4565.4	4100.8
37°	11611.0	11569.3	11009.3	10072.0	9025.2	8050.7	6744.8	5663.5	4864.7	4292.2	3891.5
38°	10238.5	10205.2	9750.5	8919.9	7974.5	7099.6	5946.3	5092.1	4490.4	4055.2	3654.5
39°	8958.9	8915.7	8506.9	7755.3	6927.7	6173.6	5416.6	4622.1	4196.5	3808.4	3399.5
40°	7716.6	7661.1	7302.0	6662.9	5972.4	5387.5	4708.2	4333.8	3958.0	3521.3	3138.9
42.5°	5178.2	5147.6	4952.0	4663.8	4371.3	4157.8	3942.7	3608.9	3212.3	2851.8	2569.0
45°	3953.8	3946.9	3851.3	3700.3	3506.0	3326.0	3039.0	2846.2	2578.6	2275.0	2072.6
47.5°	3033.3	3034.8	2946.0	2832.3	2699.2	2582.8	2373.4	2219.6	2028.2	1854.9	1698.3
50°	2103.2	2014.4	2027.0	1936.7	1828.7	1760.7	1566.6	1448.7	1177.0	902.5	705.7
51°	1576.2	1459.8	1475.1	1374.0	1261.6	1201.9	1020.4	901.0	646.1	424.1	277.2
52°	962.2	870.7	869.2	791.6	694.6	641.9	497.6	388.1	220.5	116.4	80.4
53°	431.0	370.1	356.3	303.6	238.5	206.6	141.3	104.1	77.7	59.7	45.9
54°	113.7	101.1	97.2	88.8	80.4	77.7	67.8	57.0	44.4	34.8	29.1
55°	59.7	55.5	54.0	51.3	47.1	45.9	40.2	34.8	27.6	24.9	22.2
57.5°	27.6	27.6	26.4	24.9	23.7	23.7	20.7	19.5	18.0	18.0	15.3
60°	18.0	18.0	18.0	16.5	16.5	15.3	13.8	12.6	11.1	12.6	11.1
61°	15.3	15.3	15.3	13.8	12.6	11.1	11.1	11.1	9.6	9.6	8.4
62°	11.1	11.1	9.6	9.6	8.4	8.4	8.4	8.4	6.9	8.4	8.4
63°	8.4	8.4	6.9	6.9	6.9	6.9	5.4	5.4	5.4	8.4	8.4
64°	6.9	6.9	6.9	5.4	5.4	5.4	5.4	5.4	5.4	6.9	5.4
65°	6.9	5.4	5.4	5.4	5.4	5.4	5.4	5.4	4.2	5.4	5.4
66°	5.4	5.4	5.4	5.4	5.4	5.4	5.4	4.2	4.2	5.4	5.4

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P1192158

CATALOG NUMBER: LDA6A35940D010TE LARL15SP 6LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	25°
72.5°	1.5	1.5	1.5	1.5	0.0	0.0	0.0	0.0	0.0	1.5	1.5
75°	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5
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: P1192158

CATALOG NUMBER: LDA6A35940D010TE LARL15SP 6LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	67.5°	90°	112.5°
0°	453.2	453.2	453.2	453.2	453.2	453.2	453.2	453.2	453.2	453.2	453.2
2.5°	910.9	894.1	859.6	852.7	819.4	799.9	805.4	794.5	617.0	435.2	271.7
5°	1357.2	1319.8	1268.5	1250.5	1193.7	1163.2	1153.6	1125.7	763.9	383.9	127.5
7.5°	1793.9	1745.4	1683.0	1653.9	1576.2	1524.9	1491.6	1450.2	865.0	305.0	70.8
10°	2118.5	2063.0	1997.9	1960.4	1873.1	1821.8	1767.6	1721.9	919.3	210.8	52.8
12.5°	2551.0	2441.5	2305.6	2223.8	2094.8	2024.0	1961.6	1917.2	940.0	126.3	40.2
15°	3127.8	2951.7	2758.9	2610.7	2391.4	2258.5	2153.0	2072.6	923.2	76.2	34.8
17.5°	3686.3	3436.7	3184.5	2983.5	2732.5	2534.2	2332.0	2173.9	852.7	60.9	31.8
20°	4150.9	3858.4	3536.6	3255.2	2965.5	2729.8	2460.7	2237.6	739.0	48.6	34.8
22.5°	4508.4	4135.6	3770.9	3421.7	3076.5	2806.0	2510.8	2251.4	594.8	49.8	48.6
25°	4766.4	4276.9	3888.7	3491.0	3115.2	2818.5	2484.4	2207.2	438.2	91.5	163.5
26°	4819.1	4306.0	3904.0	3484.1	3101.4	2797.8	2453.8	2179.4	395.0	181.7	360.5
27°	4848.2	4302.0	3892.9	3456.2	3072.3	2767.2	2419.3	2154.5	388.1	310.5	537.8
28°	4821.8	4267.3	3845.8	3406.4	3025.2	2727.0	2379.1	2125.4	383.9	381.2	510.2
29°	4749.8	4206.3	3775.1	3328.7	2952.9	2663.2	2318.0	2083.7	343.7	303.6	307.7
30°	4640.1	4120.3	3672.5	3224.7	2861.4	2571.7	2230.7	2017.1	227.4	152.4	130.2
31°	4504.2	4009.3	3546.5	3104.1	2757.6	2460.7	2139.2	1931.3	117.9	65.1	60.9
32°	4354.5	3876.4	3410.6	2982.0	2652.1	2354.0	2063.0	1854.9	77.7	36.0	34.8
33°	4196.5	3721.1	3260.7	2856.0	2534.2	2234.9	1983.8	1773.2	58.2	22.2	20.7
34°	4041.4	3554.6	3109.8	2720.1	2406.7	2128.1	1911.8	1678.8	47.1	16.5	13.8
35°	3865.3	3374.4	2954.4	2575.9	2269.6	2036.6	1839.8	1576.2	37.5	11.1	11.1
36°	3660.1	3183.2	2793.6	2424.7	2139.2	1952.0	1760.7	1464.0	29.1	8.4	9.6
37°	3442.4	2993.1	2631.4	2275.0	2032.4	1874.3	1665.0	1348.9	24.9	6.9	8.4
38°	3217.8	2804.7	2456.5	2130.8	1939.4	1789.8	1557.0	1229.7	20.7	5.4	6.9
39°	2997.3	2611.9	2282.0	2014.4	1852.1	1689.9	1433.4	1107.7	18.0	5.4	6.9
40°	2782.5	2417.8	2126.6	1913.3	1755.2	1568.1	1305.9	980.2	12.6	4.2	6.9
42.5°	2272.3	2015.9	1831.4	1617.9	1439.1	1228.3	960.7	636.5	9.6	4.2	5.4
45°	1902.2	1691.4	1476.6	1235.2	1059.1	842.8	568.4	270.3	9.6	4.2	5.4
47.5°	1504.2	1256.1	940.0	635.0	414.5	213.5	66.6	37.5	6.9	4.2	5.4
50°	438.2	253.7	94.2	57.0	42.9	26.4	16.5	15.3	5.4	4.2	5.4
51°	126.3	75.0	49.8	33.3	24.9	15.3	12.6	13.8	5.4	4.2	4.2
52°	59.7	42.9	29.1	22.2	16.5	12.6	11.1	12.6	5.4	4.2	4.2
53°	34.8	26.4	20.7	18.0	12.6	11.1	8.4	11.1	5.4	4.2	4.2
54°	23.7	20.7	18.0	15.3	11.1	8.4	8.4	11.1	5.4	4.2	4.2
55°	20.7	18.0	15.3	13.8	9.6	8.4	8.4	8.4	4.2	2.7	4.2
57.5°	13.8	13.8	11.1	11.1	8.4	5.4	2.7	6.9	5.4	4.2	4.2
60°	9.6	9.6	9.6	6.9	2.7	2.7	1.5	5.4	5.4	4.2	5.4
61°	9.6	9.6	6.9	5.4	2.7	2.7	1.5	5.4	5.4	4.2	5.4
62°	8.4	6.9	5.4	5.4	2.7	2.7	1.5	5.4	5.4	4.2	5.4
63°	6.9	5.4	5.4	5.4	2.7	1.5	1.5	5.4	5.4	4.2	5.4
64°	5.4	5.4	5.4	5.4	1.5	1.5	1.5	5.4	5.4	4.2	5.4
65°	5.4	5.4	5.4	4.2	1.5	1.5	1.5	4.2	5.4	4.2	5.4
66°	5.4	5.4	4.2	4.2	1.5	1.5	1.5	4.2	5.4	4.2	5.4



TEST NUMBER: P1192158

CATALOG NUMBER: LDA6A35940D010TE LARL15SP 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°	1.5	2.7	2.7	2.7	0.0	0.0	0.0	4.2	5.4	4.2	5.4
75°	1.5	1.5	2.7	2.7	0.0	0.0	0.0	4.2	5.4	5.4	5.4
77.5°	1.5	1.5	2.7	2.7	0.0	0.0	0.0	4.2	5.4	5.4	6.9
80°	1.5	1.5	2.7	2.7	0.0	0.0	0.0	4.2	5.4	5.4	6.9
82.5°	1.5	1.5	2.7	2.7	0.0	0.0	0.0	4.2	5.4	5.4	6.9
85°	1.5	1.5	2.7	2.7	0.0	0.0	0.0	4.2	5.4	5.4	6.9
87.5°	1.5	1.5	2.7	2.7	0.0	0.0	0.0	4.2	5.4	5.4	6.9
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: P1192158

CATALOG NUMBER: LDA6A35940D010TE LARL15SP 6LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
0°	453.2	453.2	453.2
2.5°	173.4	124.8	113.7
5°	69.3	57.0	51.3
7.5°	42.9	36.0	33.3
10°	34.8	26.4	24.9
12.5°	27.6	23.7	22.2
15°	26.4	22.2	20.7
17.5°	26.4	24.9	23.7
20°	33.3	33.3	34.8
22.5°	57.0	66.6	75.0
25°	275.9	446.3	592.1
26°	578.0	815.2	871.9
27°	716.8	741.7	712.6
28°	551.9	494.9	465.8
29°	295.4	246.8	225.9
30°	117.9	97.2	91.5
31°	57.0	48.6	47.1
32°	31.8	26.4	26.4
33°	19.5	16.5	15.3
34°	13.8	11.1	9.6
35°	9.6	8.4	6.9
36°	8.4	5.4	4.2
37°	6.9	4.2	4.2
38°	5.4	4.2	2.7
39°	4.2	2.7	1.5
40°	4.2	1.5	0.0
42.5°	2.7	1.5	0.0
45°	2.7	0.0	0.0
47.5°	4.2	2.7	1.5
50°	2.7	1.5	0.0
51°	2.7	0.0	0.0
52°	2.7	0.0	0.0
53°	2.7	0.0	0.0
54°	2.7	0.0	0.0
55°	2.7	0.0	0.0
57.5°	2.7	0.0	0.0
60°	2.7	0.0	0.0
61°	2.7	0.0	0.0
62°	2.7	0.0	0.0
63°	2.7	1.5	0.0
64°	2.7	1.5	0.0
65°	2.7	1.5	0.0
66°	2.7	1.5	0.0



TEST NUMBER: P1192158

CATALOG NUMBER: LDA6A35940D010TE LARL15SP 6LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	4.2	1.5	0.0
75°	4.2	1.5	0.0
77.5°	4.2	1.5	0.0
80°	4.2	1.5	0.0
82.5°	4.2	1.5	0.0
85°	4.2	1.5	0.0
87.5°	4.2	1.5	0.0
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



Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



— 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°	5.4	4.2	4.2	4.2	4.2	4.2	4.2	2.7	2.7	4.2	4.2
70°	4.2	4.2	4.2	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7

Classified

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269

Scaled Data Report





67.5°	4.2	4.2	4.2	4.2	1.5	0.0	0.0	4.2	5.4	4.2	5.4
70°	2.7	2.7	2.7	2.7	0.0	0.0	0.0	4.2	5.4	4.2	5.4

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°	4.2	1.5	0.0
70°	4.2	1.5	0.0

Classified

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)