

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: P1192144

Luminaire Tested: **LDA6A35930D010TE 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: P1192144
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: LDA6A35930D010TE 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 / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

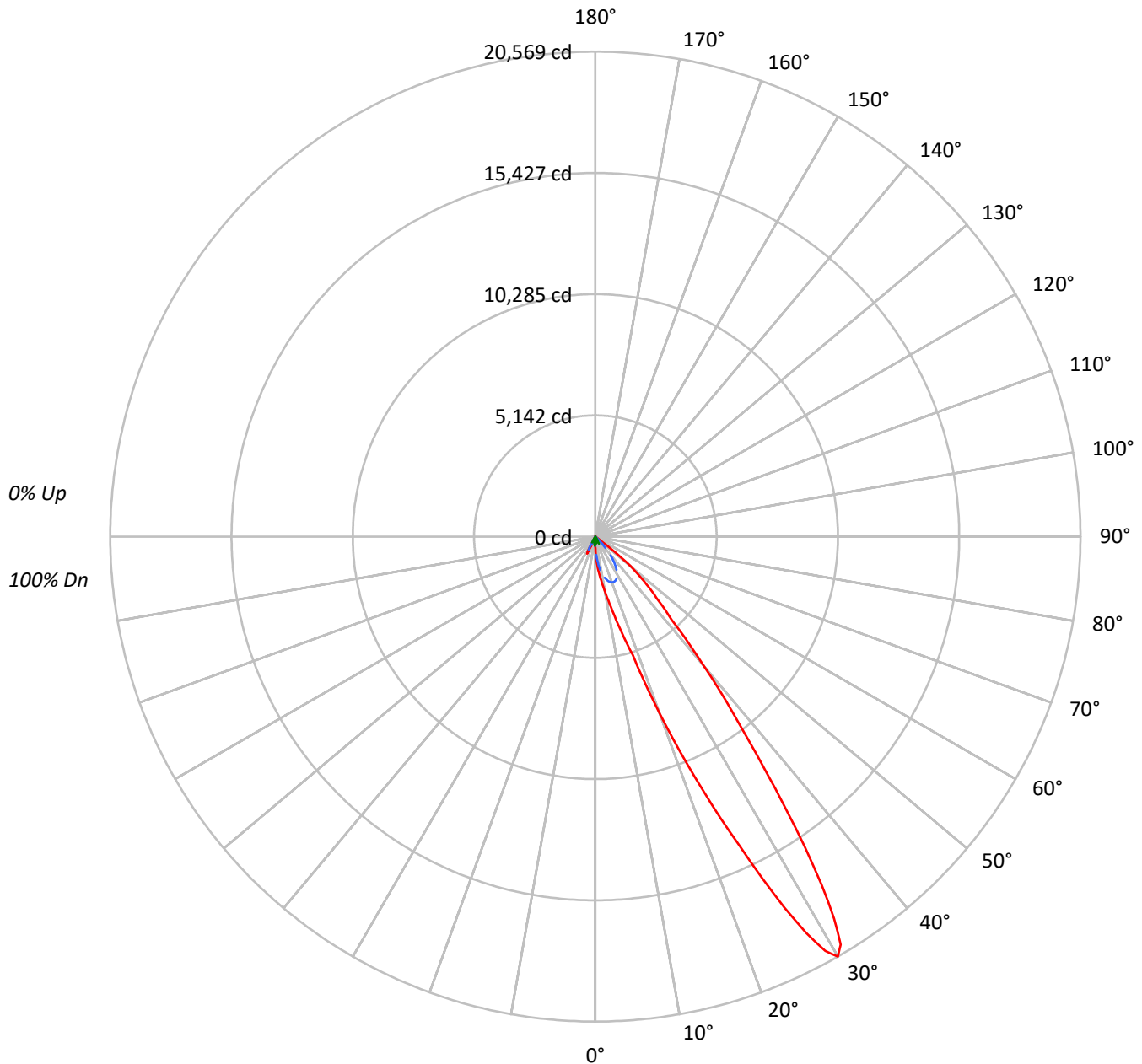
Lumens per Lamp: N/A
Luminaire Lumens: 2846.5 lumens
Efficiency: N/A
Efficacy: 59.7 lumens/watt
Spacing Criteria (0/90/45): 2.44 / 0.33 / 1.32
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

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: P1192144

CATALOG NUMBER: LDA6A35930D010TE LARL15SP 6LAL1 30° Tilt

Luminous Intensity Polar Plot



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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°	22970	22970	22970
5°	78544	19524	2603
10°	131449	10844	1291
15°	228344	4001	1090
20°	466515	2619	1873
25°	875712	5117	33099
30°	1302029	8925	5355
35°	939640	696	428
40°	510378	279	0
45°	283301	302	0
50°	165786	333	0
55°	5257	239	0
60°	1842	428	0
65°	830	506	0
70°	625	625	0
75°	254	1101	0
80°	0	1642	0
85°	0	3271	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	58.7	2.1
10°-20°	304.8	10.7
20°-30°	980.8	34.5
30°-40°	1021.1	35.9
40°-50°	435.0	15.3
50°-60°	36.1	1.3
60°-70°	3.7	0.1
70°-80°	3.2	0.1
80°-90°	3.0	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°	1344.3	47.2
0°-40°	2365.4	83.1
0°-60°	2836.5	99.6
0°-90°	2846.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2846.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	419	419	419	419	419	
5°	1427	1040	355	64	47	162
15°	4023	1916	70	24	19	1315
25°	14478	2040	85	255	547	6953
35°	14041	1457	10	9	6	8692
45°	3654	250	4	2	0	3006
55°	55	8	2	2	0	344
65°	6	4	4	2	0	7
75°	1	4	5	4	0	1
85°	0	4	5	4	0	0
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	25°
0°	419.0	419.0	419.0	419.0	419.0	419.0	419.0	419.0	419.0	419.0	419.0
2.5°	930.1	881.6	918.8	896.9	882.8	879.1	900.8	876.4	850.7	849.5	841.9
5°	1427.3	1381.2	1419.6	1386.3	1371.0	1358.2	1368.3	1328.6	1286.5	1287.7	1268.5
7.5°	1860.5	1834.9	1860.5	1824.5	1813.2	1800.4	1796.4	1757.9	1707.9	1711.8	1682.2
10°	2361.4	2287.1	2328.1	2249.9	2230.7	2196.1	2184.5	2121.9	2042.5	2038.6	1996.4
12.5°	3052.1	3022.7	3063.6	2953.4	2930.5	2871.3	2839.5	2739.4	2608.7	2575.4	2478.0
15°	4023.4	3928.4	3969.6	3814.5	3770.9	3668.3	3598.0	3442.9	3318.6	3177.6	3029.1
17.5°	5257.3	5203.3	5255.8	4951.1	4838.4	4638.4	4473.2	4214.2	3950.4	3823.4	3614.5
20°	7996.7	7740.5	7768.6	7202.2	6840.9	6302.9	5872.3	5300.7	4776.7	4475.6	4130.9
22.5°	11037.2	10745.2	10673.4	9945.5	9333.2	8524.6	7768.6	6812.8	5883.9	5211.2	4626.8
25°	14477.6	14288.0	13912.4	12720.9	11667.7	10514.4	9402.3	8151.8	6947.2	5917.2	5040.8
26°	16111.3	15958.9	15394.9	13904.8	12541.6	11161.4	9890.5	8547.6	7248.3	6118.2	5138.0
27°	17662.8	17540.0	16806.9	15072.1	13367.9	11707.4	10245.4	8829.4	7465.0	6247.6	5207.3
28°	19030.2	18904.4	17957.7	16061.2	14022.6	12101.9	10468.3	9005.0	7589.3	6278.5	5203.3
29°	20093.5	19934.7	18712.3	16695.4	14407.1	12291.6	10513.2	9027.0	7571.3	6206.7	5131.6
30°	20568.9	20371.6	18927.6	16831.3	14413.5	12219.8	10386.4	8910.3	7425.1	6037.5	4998.4
31°	20196.0	20028.1	18536.7	16439.2	14022.6	11891.8	10071.0	8641.3	7148.4	5792.9	4821.6
32°	19109.6	18955.7	17580.9	15578.1	13283.4	11337.0	9613.6	8256.8	6780.8	5496.8	4616.7
33°	17619.4	17500.3	16267.6	14395.5	12334.0	10654.2	9066.7	7775.0	6338.6	5165.1	4366.6
34°	15919.2	15825.5	14700.5	13059.2	11297.3	9895.7	8442.5	7081.8	5855.5	4830.5	4179.7
35°	14040.6	13976.5	13059.2	11686.9	10265.8	9107.6	7749.4	6469.3	5368.8	4508.9	3978.5
36°	12255.8	12203.3	11503.7	10428.6	9284.4	8290.1	6998.5	5831.4	4902.2	4219.4	3790.1
37°	10730.9	10692.7	10174.8	9308.8	8341.4	7440.6	6233.6	5234.1	4496.1	3966.9	3596.5
38°	9462.4	9431.9	9011.4	8244.0	7370.1	6561.5	5495.5	4706.2	4150.1	3747.9	3377.6
39°	8279.8	8240.1	7862.1	7167.7	6402.7	5705.6	5006.0	4271.9	3878.6	3519.8	3141.8
40°	7131.9	7080.6	6748.7	6158.1	5519.9	4979.2	4351.3	4005.4	3658.2	3254.5	2900.9
42.5°	4785.6	4757.5	4577.0	4310.4	4039.9	3842.6	3644.1	3335.1	2968.7	2635.6	2374.2
45°	3654.2	3647.8	3559.5	3419.7	3240.5	3073.8	2808.7	2630.6	2383.3	2102.7	1915.5
47.5°	2803.5	2804.7	2722.9	2617.8	2494.8	2387.0	2193.7	2051.4	1874.6	1714.3	1569.6
50°	1943.9	1861.8	1873.4	1790.0	1690.1	1627.3	1448.0	1339.0	1088.0	834.2	652.2
51°	1456.9	1349.3	1363.4	1269.7	1165.9	1110.9	943.0	832.7	597.0	392.1	256.2
52°	889.2	804.6	803.4	731.6	641.9	593.3	459.9	358.8	203.7	107.5	74.2
53°	398.5	342.0	329.2	280.6	220.5	190.9	130.7	96.2	71.8	55.0	42.2
54°	105.0	93.5	89.8	82.1	74.2	71.8	62.9	52.5	40.9	32.1	26.9
55°	55.0	51.3	50.1	47.3	43.6	42.2	37.2	32.1	25.6	23.2	20.5
57.5°	25.6	25.6	24.4	23.2	21.7	21.7	19.2	18.0	16.8	16.8	14.1
60°	16.8	16.8	16.8	15.3	15.3	14.1	12.8	11.6	10.4	11.6	10.4
61°	14.1	14.1	14.1	12.8	11.6	10.4	10.4	10.4	8.9	8.9	7.6
62°	10.4	10.4	8.9	8.9	7.6	7.6	7.6	7.6	6.4	7.6	7.6
63°	7.6	7.6	6.4	6.4	6.4	6.4	5.2	5.2	5.2	7.6	7.6
64°	6.4	6.4	6.4	5.2	5.2	5.2	5.2	5.2	5.2	6.4	5.2
65°	6.4	5.2	5.2	5.2	5.2	5.2	5.2	5.2	3.9	5.2	5.2
66°	5.2	5.2	5.2	5.2	5.2	5.2	5.2	3.9	3.9	5.2	5.2



TEST NUMBER: P1192144

CATALOG NUMBER: LDA6A35930D010TE 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°	1.2	1.2	1.2	1.2	0.0	0.0	0.0	0.0	0.0	1.2	1.2
75°	1.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2
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: P1192144

CATALOG NUMBER: LDA6A35930D010TE 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°	419.0	419.0	419.0	419.0	419.0	419.0	419.0	419.0	419.0	419.0	419.0
2.5°	841.9	826.3	794.5	788.1	757.3	739.3	744.5	734.1	570.1	402.4	251.0
5°	1254.4	1219.9	1172.3	1155.8	1103.2	1075.1	1066.0	1040.4	706.0	354.8	117.9
7.5°	1658.1	1613.2	1555.5	1528.6	1456.9	1409.5	1378.7	1340.2	799.4	281.9	65.3
10°	1957.9	1906.6	1846.5	1811.7	1731.1	1683.7	1633.7	1591.5	849.5	194.8	48.6
12.5°	2357.7	2256.3	2130.8	2055.3	1936.0	1870.6	1813.2	1772.0	868.7	116.6	37.2
15°	2890.5	2728.0	2549.8	2412.6	2210.2	2087.1	1990.0	1915.5	853.5	70.5	32.1
17.5°	3406.9	3176.3	2943.1	2757.4	2525.6	2342.1	2155.2	2009.2	788.1	56.5	29.6
20°	3836.2	3566.0	3268.6	3008.4	2740.6	2522.9	2274.3	2068.2	683.1	44.9	32.1
22.5°	4166.9	3822.2	3485.1	3162.3	2843.2	2593.4	2320.4	2080.7	549.7	46.1	44.9
25°	4405.1	3952.9	3594.1	3226.4	2879.2	2605.0	2296.0	2039.8	404.9	84.6	151.2
26°	4453.9	3979.7	3608.1	3220.0	2866.4	2585.8	2267.9	2014.2	365.2	167.9	333.1
27°	4480.8	3976.0	3598.0	3194.3	2839.5	2557.4	2235.8	1991.2	358.8	287.0	497.1
28°	4456.4	3944.0	3554.4	3148.2	2795.8	2520.4	2198.9	1964.3	354.8	352.4	471.5
29°	4389.8	3887.5	3489.0	3076.5	2729.3	2461.5	2142.4	1925.9	317.9	280.6	284.6
30°	4288.5	3808.1	3394.3	2980.3	2644.7	2376.9	2061.7	1864.2	210.1	141.0	120.3
31°	4162.9	3705.5	3277.7	2868.8	2548.5	2274.3	1977.2	1784.8	109.0	60.2	56.5
32°	4024.6	3582.5	3151.9	2756.1	2451.1	2175.7	1906.6	1714.3	71.8	33.3	32.1
33°	3878.6	3439.0	3013.6	2639.5	2342.1	2065.4	1833.6	1638.8	53.8	20.5	19.2
34°	3735.1	3285.3	2874.0	2514.0	2224.2	1966.8	1766.8	1551.6	43.6	15.3	12.8
35°	3572.4	3118.6	2730.5	2380.6	2097.5	1882.2	1700.2	1456.9	34.5	10.4	10.4
36°	3382.7	2941.8	2581.8	2241.0	1977.2	1804.1	1627.3	1353.0	26.9	7.6	8.9
37°	3181.5	2766.3	2431.9	2102.7	1878.5	1732.3	1539.0	1246.8	23.2	6.4	7.6
38°	2973.9	2592.2	2270.6	1969.3	1792.5	1654.1	1438.9	1136.5	19.2	5.2	6.4
39°	2770.2	2413.9	2109.1	1861.8	1711.8	1561.9	1324.9	1023.8	16.8	5.2	6.4
40°	2571.7	2234.6	1965.6	1768.3	1622.1	1449.2	1207.1	906.0	11.6	3.9	6.4
42.5°	2100.0	1863.0	1692.6	1495.3	1330.1	1135.3	888.0	588.1	8.9	3.9	5.2
45°	1757.9	1563.1	1364.6	1141.7	979.0	779.0	525.2	249.8	8.9	3.9	5.2
47.5°	1390.3	1161.0	868.7	586.9	383.2	197.3	61.4	34.5	6.4	3.9	5.2
50°	404.9	234.5	87.0	52.5	39.7	24.4	15.3	14.1	5.2	3.9	5.2
51°	116.6	69.3	46.1	30.8	23.2	14.1	11.6	12.8	5.2	3.9	3.9
52°	55.0	39.7	26.9	20.5	15.3	11.6	10.4	11.6	5.2	3.9	3.9
53°	32.1	24.4	19.2	16.8	11.6	10.4	7.6	10.4	5.2	3.9	3.9
54°	21.7	19.2	16.8	14.1	10.4	7.6	7.6	10.4	5.2	3.9	3.9
55°	19.2	16.8	14.1	12.8	8.9	7.6	7.6	7.6	3.9	2.5	3.9
57.5°	12.8	12.8	10.4	10.4	7.6	5.2	2.5	6.4	5.2	3.9	3.9
60°	8.9	8.9	8.9	6.4	2.5	2.5	1.2	5.2	5.2	3.9	5.2
61°	8.9	8.9	6.4	5.2	2.5	2.5	1.2	5.2	5.2	3.9	5.2
62°	7.6	6.4	5.2	5.2	2.5	2.5	1.2	5.2	5.2	3.9	5.2
63°	6.4	5.2	5.2	5.2	2.5	1.2	1.2	5.2	5.2	3.9	5.2
64°	5.2	5.2	5.2	5.2	1.2	1.2	1.2	5.2	5.2	3.9	5.2
65°	5.2	5.2	5.2	3.9	1.2	1.2	1.2	3.9	5.2	3.9	5.2
66°	5.2	5.2	3.9	3.9	1.2	1.2	1.2	3.9	5.2	3.9	5.2

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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CANDELA DISTRIBUTION (continued):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	67.5°	90°	112.5°
72.5°	1.2	2.5	2.5	2.5	0.0	0.0	0.0	3.9	5.2	3.9	5.2
75°	1.2	1.2	2.5	2.5	0.0	0.0	0.0	3.9	5.2	5.2	5.2
77.5°	1.2	1.2	2.5	2.5	0.0	0.0	0.0	3.9	5.2	5.2	6.4
80°	1.2	1.2	2.5	2.5	0.0	0.0	0.0	3.9	5.2	5.2	6.4
82.5°	1.2	1.2	2.5	2.5	0.0	0.0	0.0	3.9	5.2	5.2	6.4
85°	1.2	1.2	2.5	2.5	0.0	0.0	0.0	3.9	5.2	5.2	6.4
87.5°	1.2	1.2	2.5	2.5	0.0	0.0	0.0	3.9	5.2	5.2	6.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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CATALOG NUMBER: LDA6A35930D010TE LARL15SP 6LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
0°	419.0	419.0	419.0
2.5°	160.3	115.4	105.0
5°	64.1	52.5	47.3
7.5°	39.7	33.3	30.8
10°	32.1	24.4	23.2
12.5°	25.6	21.7	20.5
15°	24.4	20.5	19.2
17.5°	24.4	23.2	21.7
20°	30.8	30.8	32.1
22.5°	52.5	61.4	69.3
25°	255.0	412.5	547.2
26°	534.4	753.3	805.9
27°	662.3	685.5	658.6
28°	510.0	457.4	430.5
29°	273.0	228.1	208.9
30°	109.0	89.8	84.6
31°	52.5	44.9	43.6
32°	29.6	24.4	24.4
33°	18.0	15.3	14.1
34°	12.8	10.4	8.9
35°	8.9	7.6	6.4
36°	7.6	5.2	3.9
37°	6.4	3.9	3.9
38°	5.2	3.9	2.5
39°	3.9	2.5	1.2
40°	3.9	1.2	0.0
42.5°	2.5	1.2	0.0
45°	2.5	0.0	0.0
47.5°	3.9	2.5	1.2
50°	2.5	1.2	0.0
51°	2.5	0.0	0.0
52°	2.5	0.0	0.0
53°	2.5	0.0	0.0
54°	2.5	0.0	0.0
55°	2.5	0.0	0.0
57.5°	2.5	0.0	0.0
60°	2.5	0.0	0.0
61°	2.5	0.0	0.0
62°	2.5	0.0	0.0
63°	2.5	1.2	0.0
64°	2.5	1.2	0.0
65°	2.5	1.2	0.0
66°	2.5	1.2	0.0



TEST NUMBER: P1192144

CATALOG NUMBER: LDA6A35930D010TE LARL15SP 6LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	3.9	1.2	0.0
75°	3.9	1.2	0.0
77.5°	3.9	1.2	0.0
80°	3.9	1.2	0.0
82.5°	3.9	1.2	0.0
85°	3.9	1.2	0.0
87.5°	3.9	1.2	0.0
90°	0.0	0.0	0.0

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Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



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Peachtree City, GA 30269

Scaled Data Report



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Scaled Data Report

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Peachtree City, GA 30269



— 0°-180° - - 45°-225° - - - 90°-270°

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67.5°	5.2	3.9	3.9	3.9	3.9	3.9	3.9	2.5	2.5	3.9	3.9
70°	3.9	3.9	3.9	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5

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67.5°	3.9	3.9	3.9	3.9	1.2	0.0	0.0	3.9	5.2	3.9	5.2
70°	2.5	2.5	2.5	2.5	0.0	0.0	0.0	3.9	5.2	3.9	5.2

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67.5°	3.9	1.2	0.0
70°	3.9	1.2	0.0

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(END OF REPORT)