

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: P1191419

Luminaire Tested: **LDA4A10927D010TE LAR15SP 4LA1 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: P1191419
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25648)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA4A10927D010TE LAR15SP 4LA1 30° Tilt
Description: PORTFOLIO 4" Adjustable Reflector, Self-flanged Trim Ring, 15° Spot
Optic, at 30° tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

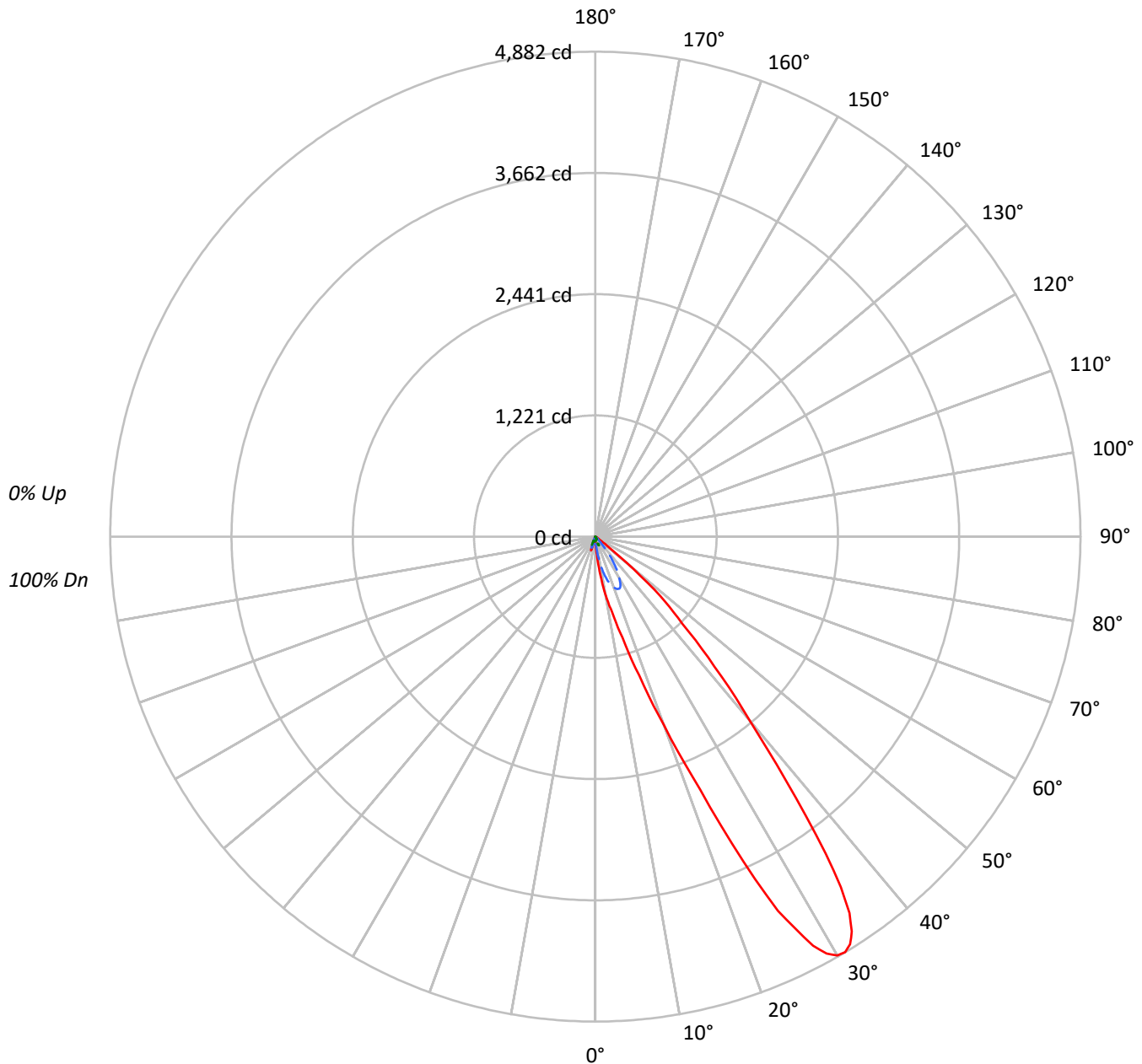
Lumens per Lamp: N/A
Luminaire Lumens: 787.6 lumens
Efficiency: N/A
Efficacy: 63.5 lumens/watt
Spacing Criteria (0/90/45): 2.52 / 1.04 / 1.28
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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

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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	112	109	106	104	110	107	104	102	103	101	99	99	98	96	96	94	93	91		
2	106	100	95	91	103	98	94	90	95	91	88	92	89	86	89	86	84	82		
3	99	91	85	80	97	90	84	80	87	82	78	84	80	77	82	79	76	74		
4	92	83	77	71	90	82	76	71	80	74	70	78	73	69	76	72	68	67		
5	86	76	69	64	84	75	68	63	73	67	63	71	66	62	70	65	62	60		
6	80	69	62	57	79	69	62	57	67	61	56	65	60	56	64	59	56	54		
7	75	64	56	51	73	63	56	51	62	55	51	60	55	50	59	54	50	49		
8	70	58	51	46	69	58	51	46	57	50	46	55	50	46	54	49	45	44		
9	65	54	47	42	64	53	46	42	52	46	41	51	45	41	50	45	41	40		
10	61	49	42	38	60	49	42	38	48	42	38	47	41	37	46	41	37	36		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	5674	5674	5674
5°	25420	5337	3454
10°	75237	4897	4409
15°	134324	5810	12425
20°	266054	11420	13336
25°	517726	7458	3797
30°	693478	2777	1325
35°	648912	1175	512
40°	388854	547	161
45°	215796	331	0
50°	79175	288	0
55°	12086	215	0
60°	2640	247	0
65°	846	292	0
70°	180	361	0
75°	0	715	0
80°	0	1065	0
85°	0	2123	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	10.1	1.3
10°-20°	85.1	10.8
20°-30°	253.9	32.2
30°-40°	300.7	38.2
40°-50°	124.8	15.8
50°-60°	9.7	1.2
60°-70°	1.3	0.2
70°-80°	1.0	0.1
80°-90°	0.9	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°	349.1	44.3
0°-40°	649.8	82.5
0°-60°	784.3	99.6
0°-90°	787.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	787.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	46	46	46	46	46	
5°	205	104	43	30	28	33
15°	1052	444	46	68	97	347
25°	3804	577	55	32	28	1738
35°	4310	322	8	4	3	2497
45°	1237	28	2	2	0	1009
55°	56	4	1	0	0	82
65°	3	1	1	1	0	4
75°	0	1	2	1	0	0
85°	0	1	2	1	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°	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0
2.5°	79.6	75.8	77.7	74.3	76.3	72.9	70.4	72.9	72.9	70.8	67.9
5°	205.3	204.3	208.3	199.0	201.4	191.1	182.3	184.7	182.8	176.4	165.2
7.5°	391.0	387.1	391.6	378.3	378.8	361.7	348.5	351.4	342.6	331.8	312.3
10°	600.7	595.4	600.2	584.5	581.6	557.6	539.1	542.0	522.0	504.4	474.6
12.5°	782.5	782.1	766.4	769.3	763.5	726.8	715.1	716.1	688.7	669.1	633.4
15°	1051.9	1062.1	1065.0	1045.0	1008.8	942.3	913.0	901.8	857.2	824.5	773.2
17.5°	1465.8	1480.0	1431.6	1443.3	1383.7	1279.6	1221.4	1186.8	1103.2	1041.5	948.7
20°	2026.9	2014.7	1944.8	1936.0	1834.3	1700.5	1578.2	1512.7	1384.2	1294.3	1158.9
22.5°	2751.3	2742.0	2622.3	2568.9	2356.3	2167.7	2009.3	1845.2	1654.0	1533.7	1349.9
25°	3804.1	3761.5	3530.8	3379.4	3005.4	2684.8	2420.9	2165.8	1872.9	1742.5	1508.8
26°	4191.7	4181.3	3940.9	3741.5	3290.9	2892.9	2537.2	2281.5	1959.0	1806.4	1553.8
27°	4424.4	4505.9	4282.1	4056.3	3563.6	3087.1	2674.5	2374.9	2025.9	1851.4	1582.6
28°	4665.7	4718.6	4518.1	4234.7	3782.0	3241.4	2778.7	2438.0	2067.0	1873.4	1592.4
29°	4798.7	4849.5	4663.3	4397.4	3925.3	3341.7	2840.2	2465.9	2082.2	1872.9	1583.7
30°	4869.0	4916.5	4734.7	4476.6	3984.4	3373.0	2853.5	2454.6	2067.4	1850.5	1558.7
31°	4881.8	4921.4	4742.0	4474.2	3961.9	3334.4	2816.3	2408.2	2028.3	1809.0	1521.0
32°	4838.7	4869.5	4687.3	4401.8	3860.7	3236.6	2739.1	2336.3	1968.7	1757.1	1472.7
33°	4738.1	4793.4	4571.0	4255.7	3684.8	3091.9	2629.5	2242.4	1894.4	1689.6	1413.5
34°	4571.5	4606.6	4376.4	4027.0	3450.2	2916.0	2495.1	2133.4	1809.4	1610.0	1346.6
35°	4309.5	4340.7	4086.1	3718.1	3182.8	2717.5	2341.7	2013.3	1714.1	1520.6	1272.2
36°	3946.8	3976.6	3710.2	3374.9	2913.1	2510.8	2179.9	1882.2	1610.9	1424.7	1193.5
37°	3523.1	3548.9	3311.9	3038.1	2648.1	2301.5	2016.2	1749.2	1502.0	1327.0	1118.7
38°	3113.4	3136.9	2945.3	2722.4	2392.5	2097.4	1852.9	1611.4	1389.5	1228.8	1040.1
39°	2743.9	2764.4	2610.0	2426.2	2149.1	1901.3	1690.1	1474.6	1276.7	1130.5	959.0
40°	2415.0	2432.6	2305.5	2154.4	1928.2	1718.0	1531.8	1342.2	1166.2	1035.2	883.2
42.5°	1772.8	1776.6	1701.0	1611.9	1436.0	1315.3	1182.8	1046.0	917.4	827.4	730.8
45°	1237.1	1285.5	1236.0	1176.9	1050.8	975.1	890.5	807.9	733.7	647.1	551.3
47.5°	889.6	891.5	862.2	825.0	725.3	673.6	604.1	503.9	430.1	307.5	228.3
50°	412.6	389.5	391.0	365.6	326.0	259.1	216.5	154.5	123.2	88.0	70.8
51°	245.3	228.3	230.7	212.6	186.2	145.2	123.2	98.7	85.6	66.5	54.8
52°	143.2	137.3	136.8	128.5	109.5	100.6	88.9	74.3	65.0	51.3	42.5
53°	104.1	100.2	100.2	94.8	81.6	75.8	67.5	57.2	49.8	39.1	32.2
54°	77.7	74.8	74.8	71.3	66.0	56.7	50.8	42.5	37.2	30.3	23.9
55°	56.2	54.3	54.3	51.8	47.9	41.0	36.7	30.8	27.4	22.0	17.6
57.5°	23.4	22.5	22.5	21.5	20.5	17.6	16.6	14.1	12.2	10.7	8.8
60°	10.7	10.3	10.7	10.3	9.3	9.8	8.3	7.4	6.9	5.9	4.8
61°	8.3	7.8	7.8	7.8	6.9	6.9	6.4	5.9	5.3	4.5	3.9
62°	6.4	5.9	5.9	5.9	5.3	5.3	4.8	4.5	4.5	3.4	2.9
63°	4.8	4.5	4.5	4.5	3.9	3.9	3.9	3.4	3.4	2.9	2.4
64°	3.4	3.4	3.4	3.4	3.4	2.9	2.9	2.9	2.4	1.9	1.9
65°	2.9	2.4	2.9	2.4	2.4	2.4	2.4	2.4	1.9	1.5	1.5
66°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.5	1.0



TEST NUMBER: P1191419

CATALOG NUMBER: LDA4A10927D010TE LAR15SP 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	25°
72.5°	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5
75°	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.5
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5
85°	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.5
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5
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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CANDELA DISTRIBUTION (continued):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	67.5°	90°	112.5°
0°	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0
2.5°	66.5	68.4	67.0	63.1	65.0	64.1	62.0	60.6	51.8	45.0	38.1
5°	156.9	158.3	150.0	135.4	130.6	122.7	111.5	103.6	58.6	43.1	33.8
7.5°	296.7	286.8	279.1	251.7	240.0	221.9	200.4	185.2	67.0	40.5	31.3
10°	449.1	433.6	417.4	377.3	356.3	328.5	297.7	280.1	75.8	39.1	31.3
12.5°	600.2	579.2	549.9	505.9	476.0	438.4	396.4	365.1	82.2	40.1	36.2
15°	731.1	705.8	673.6	623.6	589.0	542.0	487.3	444.3	85.1	45.5	50.3
17.5°	873.9	827.9	774.7	711.1	673.0	618.8	557.1	504.9	85.1	57.7	80.6
20°	1038.1	954.0	868.6	779.5	725.8	669.1	603.1	546.9	88.5	87.0	110.9
22.5°	1191.1	1075.3	954.5	838.8	764.0	702.3	635.3	570.9	102.7	95.8	73.8
25°	1309.9	1162.8	1020.5	879.8	795.2	726.8	655.0	577.3	93.9	54.8	40.1
26°	1340.6	1181.8	1033.8	884.6	796.7	726.3	653.1	570.4	78.7	43.6	32.2
27°	1356.8	1188.2	1034.7	880.3	790.9	718.0	642.2	556.2	63.1	35.2	26.4
28°	1356.8	1180.9	1024.5	868.1	775.7	702.3	623.6	533.7	51.3	28.8	21.0
29°	1343.2	1161.8	1004.0	849.5	755.2	680.3	598.3	507.3	43.6	23.9	17.1
30°	1316.7	1133.9	976.6	825.5	728.7	655.5	570.4	479.9	37.6	19.5	13.6
31°	1279.6	1102.7	942.8	799.7	704.3	632.4	544.9	452.1	32.7	15.7	11.2
32°	1235.2	1063.6	908.2	772.8	684.3	611.0	518.5	422.8	28.4	13.2	9.8
33°	1183.8	1019.5	872.0	746.3	664.8	586.6	489.8	391.0	24.5	10.7	8.3
34°	1127.1	971.2	834.8	718.0	640.8	555.7	456.0	357.3	21.0	9.3	6.9
35°	1065.5	917.0	796.7	689.1	613.9	521.5	419.8	321.6	18.1	7.8	5.9
36°	999.0	866.2	759.5	660.3	580.7	484.4	380.2	284.9	15.7	6.4	5.3
37°	932.5	818.3	722.9	629.5	542.0	442.4	338.7	246.9	13.6	5.3	4.5
38°	869.5	771.8	686.7	593.8	497.0	395.9	295.8	208.6	11.7	4.8	3.9
39°	810.4	726.8	649.6	551.3	450.7	350.9	254.1	169.2	10.3	4.5	3.4
40°	757.1	684.3	609.0	503.9	402.8	304.9	212.1	126.1	8.8	3.4	2.9
42.5°	644.6	567.5	468.2	351.4	272.2	176.9	98.7	46.9	6.4	2.4	2.4
45°	425.7	327.5	222.4	132.5	89.4	53.8	40.1	28.4	4.8	1.9	1.9
47.5°	142.3	90.4	66.0	47.4	40.5	32.2	25.9	17.6	3.4	1.5	1.5
50°	54.3	43.9	36.2	27.4	24.5	19.5	15.7	10.3	2.4	1.5	1.5
51°	42.5	34.6	28.4	21.5	19.5	15.7	12.7	8.8	1.9	1.5	1.5
52°	32.7	26.9	22.0	16.6	15.7	12.7	10.7	7.4	1.9	1.0	1.5
53°	25.0	20.5	16.6	12.7	12.2	10.3	8.8	5.9	1.5	1.0	1.5
54°	18.6	15.7	13.2	10.3	10.3	8.8	7.4	4.8	1.5	1.0	1.5
55°	14.1	11.7	10.3	7.8	8.3	7.4	6.4	3.9	1.5	1.0	1.5
57.5°	7.4	6.9	5.9	4.8	5.3	4.8	4.5	2.4	1.5	1.0	1.5
60°	4.5	3.9	3.4	2.9	3.4	3.4	3.4	1.5	1.5	1.0	1.5
61°	3.4	2.9	2.4	2.4	2.9	2.9	2.9	1.5	1.5	1.0	1.5
62°	2.4	2.4	1.9	1.9	2.9	2.4	2.4	1.5	1.5	1.0	1.5
63°	1.9	1.9	1.9	1.5	2.4	2.4	2.4	1.5	1.5	1.0	1.5
64°	1.5	1.5	1.5	1.5	1.9	2.4	2.4	1.0	1.5	1.0	1.5
65°	1.5	1.5	1.0	1.0	1.9	1.9	1.9	1.0	1.5	1.0	1.5
66°	1.0	1.0	1.0	1.0	1.9	1.9	1.9	1.0	1.5	1.0	1.5



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CATALOG NUMBER: LDA4A10927D010TE LAR15SP 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	67.5°	90°	112.5°
72.5°	0.5	0.5	0.5	0.5	1.5	1.5	1.9	1.0	1.5	1.5	1.5
75°	0.5	0.5	0.5	0.5	1.5	1.5	1.9	1.0	1.5	1.5	1.5
77.5°	0.5	0.5	0.5	0.5	1.5	1.5	1.9	1.0	1.5	1.5	1.9
80°	0.5	0.5	0.5	0.5	1.5	1.5	1.9	1.0	1.5	1.5	1.9
82.5°	0.5	0.5	0.5	0.5	1.5	1.5	1.9	1.0	1.5	1.5	1.9
85°	0.5	0.5	0.5	0.5	1.5	1.5	1.9	1.0	1.5	1.5	1.9
87.5°	0.5	0.5	0.5	0.5	1.5	1.5	1.9	1.0	1.5	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

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CATALOG NUMBER: LDA4A10927D010TE LAR15SP 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
0°	46.0	46.0	46.0
2.5°	34.6	33.2	32.2
5°	29.8	28.4	27.9
7.5°	27.9	27.4	27.9
10°	30.8	32.7	35.2
12.5°	41.0	48.4	52.4
15°	67.9	88.5	97.3
17.5°	119.7	136.4	146.1
20°	105.6	96.3	101.6
22.5°	57.2	49.8	51.3
25°	31.7	27.4	27.9
26°	25.5	22.0	22.0
27°	20.5	17.6	17.6
28°	16.6	14.1	14.1
29°	13.2	11.2	11.2
30°	10.7	9.3	9.3
31°	8.8	7.4	7.4
32°	7.4	6.4	5.9
33°	6.4	5.3	4.8
34°	5.3	4.5	3.9
35°	4.5	3.4	3.4
36°	3.9	2.9	2.9
37°	3.4	2.4	2.4
38°	2.9	1.9	1.9
39°	2.4	1.9	1.5
40°	1.9	1.5	1.0
42.5°	1.5	1.0	0.5
45°	1.5	0.5	0.0
47.5°	1.0	0.5	0.0
50°	1.0	0.0	0.0
51°	1.0	0.0	0.0
52°	1.0	0.0	0.0
53°	0.5	0.0	0.0
54°	1.0	0.0	0.0
55°	0.5	0.0	0.0
57.5°	1.0	0.0	0.0
60°	1.0	0.0	0.0
61°	1.0	0.0	0.0
62°	1.0	0.0	0.0
63°	1.0	0.0	0.0
64°	1.0	0.5	0.0
65°	1.0	0.5	0.0
66°	1.0	0.5	0.0



TEST NUMBER: P1191419

CATALOG NUMBER: LDA4A10927D010TE LAR15SP 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	1.0	0.5	0.0
75°	1.0	0.5	0.0
77.5°	1.0	0.5	0.0
80°	1.0	0.5	0.0
82.5°	1.0	0.5	0.0
85°	1.0	0.5	0.0
87.5°	1.0	0.5	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

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— 0°-180° - - 45°-225° - - - 90°-270°

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67.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.0	1.0
70°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.0	0.5	0.5

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Peachtree City, GA 30269

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67.5°	1.0	0.5	1.0	1.0	1.5	1.9	1.9	1.0	1.5	1.0	1.5
70°	0.5	0.5	0.5	0.5	1.5	1.5	1.9	1.0	1.5	1.0	1.5

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Peachtree City, GA 30269

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67.5°	1.0	0.5	0.0
70°	1.0	0.5	0.0

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(END OF REPORT)