

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: P1191833

Luminaire Tested: **LDA4A30940D010TE 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: P1191833
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: LDA4A30940D010TE 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 / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

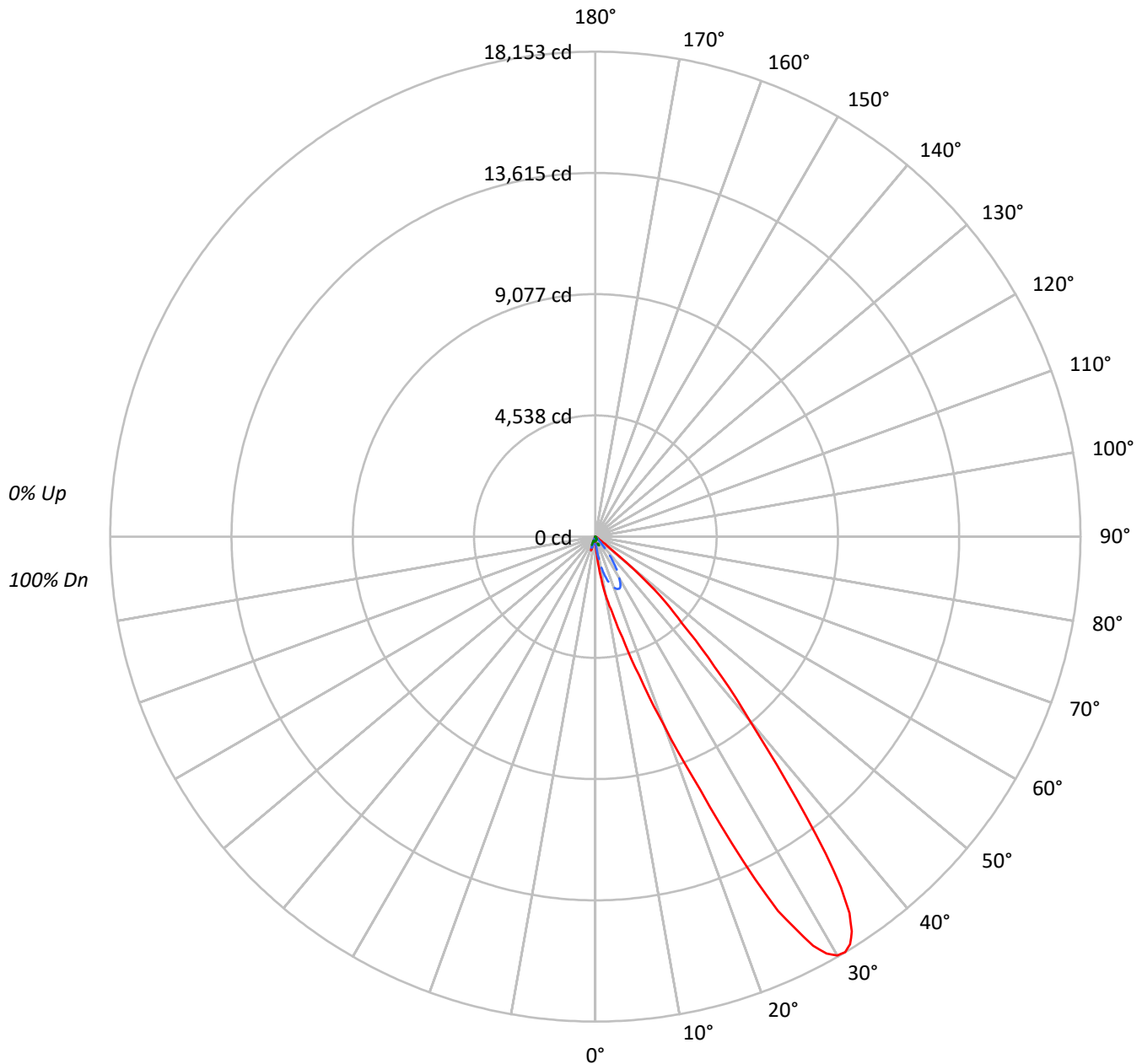
Lumens per Lamp: N/A
Luminaire Lumens: 2928.4 lumens
Efficiency: N/A
Efficacy: 74.3 lumens/watt
Spacing Criteria (0/90/45): 2.52 / 1.04 / 1.28
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 39.4
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
RCR																				
0	119	119	119	119	116	116	116	116		111	111	111			106	106	106			102
1	112	109	106	104	110	107	104	102		103	101	99			99	98	96			96
2	106	100	95	91	103	98	94	90		95	91	88			92	89	86			89
3	99	91	85	80	97	90	84	80		87	82	78			84	80	77			82
4	92	83	77	71	90	82	76	71		80	74	70			78	73	69			76
5	86	76	69	64	84	75	68	63		73	67	63			71	66	62			70
6	80	69	62	57	79	69	62	57		67	61	56			65	60	56			64
7	75	64	56	51	73	63	56	51		62	55	51			60	55	50			59
8	70	58	51	46	69	58	51	46		57	50	46			55	50	46			54
9	65	54	47	42	64	53	46	42		52	46	41			51	45	41			50
10	61	49	42	38	60	49	42	38		48	42	38			47	41	37			46

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	21067	21067	21067
5°	94509	19811	12815
10°	279755	18211	16382
15°	499435	21581	46188
20°	989319	42476	49617
25°	1925117	27696	14086
30°	2578703	10354	4928
35°	2412909	4367	1912
40°	1445926	2045	596
45°	802393	1273	0
50°	294343	1036	0
55°	44966	796	0
60°	9868	913	0
65°	3181	1080	0
70°	649	1334	0
75°	0	2573	0
80°	0	3836	0
85°	0	7642	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	37.5	1.3
10°-20°	316.3	10.8
20°-30°	944.2	32.2
30°-40°	1118.2	38.2
40°-50°	463.9	15.8
50°-60°	36.1	1.2
60°-70°	4.9	0.2
70°-80°	3.8	0.1
80°-90°	3.5	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°	1298.1	44.3
0°-40°	2416.3	82.5
0°-60°	2916.3	99.6
0°-90°	2928.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2928.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	171	171	171	171	171	
5°	763	385	160	111	104	121
15°	3911	1652	169	253	362	1291
25°	14145	2146	204	118	104	6461
35°	16024	1196	29	16	13	9286
45°	4600	105	7	5	0	3750
55°	209	14	4	2	0	306
65°	11	4	4	4	0	14
75°	0	4	5	4	0	0
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°	170.8	170.8	170.8	170.8	170.8	170.8	170.8	170.8	170.8	170.8	170.8
2.5°	296.2	281.7	289.0	276.2	283.5	270.8	261.7	270.8	270.8	263.5	252.6
5°	763.3	759.7	774.3	739.7	748.8	710.7	678.0	686.9	679.7	656.1	614.3
7.5°	1453.9	1439.4	1455.8	1406.7	1408.6	1344.9	1295.8	1306.7	1274.0	1234.1	1161.4
10°	2233.6	2213.7	2231.8	2173.6	2162.8	2073.7	2004.6	2015.6	1941.1	1875.6	1764.7
12.5°	2909.7	2907.9	2849.7	2860.7	2838.9	2702.5	2658.9	2662.6	2560.7	2488.0	2355.4
15°	3911.1	3949.2	3960.2	3885.7	3751.3	3504.1	3395.0	3353.2	3187.8	3066.0	2875.2
17.5°	5450.5	5503.2	5323.3	5366.9	5145.2	4758.1	4541.7	4412.7	4102.0	3873.0	3527.7
20°	7537.0	7491.4	7231.6	7198.9	6820.9	6322.9	5868.5	5624.9	5147.0	4812.5	4309.2
22.5°	10230.4	10195.8	9750.5	9552.5	8761.9	8060.3	7471.5	6860.8	6150.3	5703.1	5019.8
25°	14145.2	13987.0	13129.2	12565.8	11175.4	9983.2	9001.8	8053.1	6964.4	6479.2	5610.4
26°	15586.3	15548.2	14654.1	13912.5	12236.9	10757.4	9434.4	8483.9	7284.4	6717.3	5777.7
27°	16451.5	16755.0	15922.6	15083.0	13250.9	11478.9	9945.1	8830.9	7533.3	6884.4	5884.9
28°	17349.3	17545.6	16800.5	15746.3	14063.4	12053.2	10332.2	9065.4	7686.0	6966.2	5921.2
29°	17843.7	18032.7	17340.2	16351.5	14595.9	12425.9	10561.2	9169.0	7742.3	6964.4	5888.5
30°	18105.4	18281.6	17605.6	16645.9	14815.8	12542.2	10610.2	9127.2	7687.7	6880.9	5795.9
31°	18152.6	18299.8	17632.8	16636.8	14732.2	12398.6	10472.1	8954.5	7542.4	6726.3	5655.9
32°	17992.6	18107.2	17429.3	16367.9	14356.0	12035.0	10185.0	8687.4	7320.6	6533.7	5476.0
33°	17618.3	17823.7	16996.8	15824.4	13701.7	11497.2	9777.8	8338.4	7044.4	6282.8	5256.0
34°	16998.5	17129.5	16273.4	14973.9	12829.4	10842.9	9278.0	7933.2	6728.1	5986.6	5007.1
35°	16024.4	16140.7	15193.8	13825.3	11835.2	10104.9	8707.3	7486.0	6373.7	5654.1	4730.8
36°	14675.8	14786.8	13796.2	12549.5	10832.0	9336.2	8105.8	6998.9	5990.3	5297.8	4438.2
37°	13100.1	13196.4	12314.9	11297.2	9846.9	8558.4	7497.0	6504.6	5585.0	4934.4	4160.2
38°	11577.1	11664.4	10951.9	10123.1	8896.3	7798.6	6890.0	5992.1	5167.0	4569.1	3867.5
39°	10203.1	10279.4	9705.1	9021.8	7991.4	7069.9	6284.7	5483.3	4747.1	4203.7	3565.8
40°	8980.0	9045.4	8572.9	8011.3	7169.7	6388.4	5695.9	4990.7	4336.4	3849.4	3284.1
42.5°	6591.9	6606.4	6324.7	5994.0	5339.6	4890.8	4398.2	3889.4	3411.4	3077.0	2717.0
45°	4599.9	4779.8	4596.4	4376.3	3907.4	3625.8	3311.4	3004.2	2728.0	2406.3	2050.1
47.5°	3307.7	3315.1	3206.0	3067.9	2697.1	2504.4	2246.4	1873.8	1599.3	1143.2	848.8
50°	1533.9	1448.5	1453.9	1359.5	1212.2	963.3	805.1	574.3	458.0	327.1	263.5
51°	912.4	848.8	857.9	790.6	692.5	539.7	458.0	367.1	318.0	247.2	203.5
52°	532.5	510.7	508.9	478.0	407.0	374.3	330.8	276.2	241.8	190.9	158.1
53°	387.1	372.6	372.6	352.6	303.5	281.7	250.7	212.6	185.3	145.4	119.9
54°	289.0	278.0	278.0	265.4	245.3	210.8	189.0	158.1	138.1	112.6	89.0
55°	209.1	201.7	201.7	192.7	178.1	152.6	136.3	114.5	101.8	81.8	65.4
57.5°	87.2	83.6	83.6	79.9	76.4	65.4	61.7	52.8	45.4	40.0	32.7
60°	40.0	38.1	40.0	38.1	34.6	36.4	30.9	27.3	25.5	21.8	18.2
61°	30.9	29.0	29.0	29.0	25.5	25.5	23.6	21.8	20.0	16.4	14.5
62°	23.6	21.8	21.8	21.8	20.0	20.0	18.2	16.4	16.4	12.7	10.9
63°	18.2	16.4	16.4	16.4	14.5	14.5	14.5	12.7	12.7	10.9	9.1
64°	12.7	12.7	12.7	12.7	12.7	10.9	10.9	10.9	9.1	7.3	7.3
65°	10.9	9.1	10.9	9.1	9.1	9.1	9.1	9.1	7.3	5.4	5.4
66°	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	5.4	3.7



TEST NUMBER: P1191833

CATALOG NUMBER: LDA4A30940D010TE 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	1.8	1.8	1.8	1.8	1.8	1.8	1.8
75°	0.0	0.0	0.0	0.0	0.0	1.8	1.8	1.8	1.8	1.8	1.8
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.8	1.8	1.8	1.8
80°	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.8	1.8	1.8	1.8
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.8	1.8	1.8	1.8
85°	0.0	0.0	0.0	0.0	0.0	1.8	1.8	1.8	1.8	1.8	1.8
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.8	1.8	1.8	1.8
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°	170.8	170.8	170.8	170.8	170.8	170.8	170.8	170.8	170.8	170.8	170.8
2.5°	247.2	254.4	249.0	234.4	241.8	238.1	230.8	225.4	192.7	167.3	141.8
5°	583.4	588.8	557.9	503.5	485.3	456.1	414.4	385.3	218.0	160.0	125.4
7.5°	1103.2	1066.8	1037.8	936.0	892.3	825.2	745.1	688.8	249.0	150.9	116.3
10°	1670.3	1612.1	1552.1	1403.0	1324.9	1221.3	1106.8	1041.4	281.7	145.4	116.3
12.5°	2231.8	2153.7	2044.6	1881.0	1770.2	1630.3	1474.0	1357.7	305.4	149.0	134.5
15°	2718.9	2624.4	2504.4	2319.1	2190.0	2015.6	1811.9	1652.1	316.3	169.0	187.2
17.5°	3249.6	3078.7	2880.6	2644.4	2502.6	2300.9	2071.9	1877.5	316.3	214.5	299.9
20°	3860.2	3547.6	3229.6	2898.8	2699.0	2488.0	2242.7	2033.8	329.0	323.6	412.6
22.5°	4429.1	3998.3	3549.5	3118.7	2840.6	2611.6	2362.6	2122.8	381.7	356.3	274.5
25°	4870.7	4323.7	3794.8	3271.4	2957.0	2702.5	2435.4	2146.4	349.0	203.5	149.0
26°	4985.2	4394.5	3843.9	3289.6	2962.4	2700.7	2428.2	2121.0	292.6	161.7	119.9
27°	5045.2	4418.2	3847.6	3273.3	2940.6	2669.8	2388.1	2068.2	234.4	130.8	98.1
28°	5045.2	4391.0	3809.3	3227.7	2884.3	2611.6	2319.1	1984.6	190.9	107.2	78.1
29°	4994.3	4320.0	3733.1	3158.8	2807.9	2529.9	2224.5	1886.4	161.7	89.0	63.6
30°	4896.2	4216.5	3631.2	3069.6	2709.8	2437.1	2121.0	1784.8	139.9	72.7	50.9
31°	4758.1	4100.1	3505.8	2973.3	2618.9	2351.8	2026.4	1681.1	121.7	58.2	41.8
32°	4592.7	3954.8	3376.8	2873.3	2544.4	2271.9	1928.3	1572.1	105.4	49.1	36.4
33°	4401.8	3791.2	3242.3	2775.2	2471.7	2181.0	1821.0	1453.9	90.9	40.0	30.9
34°	4191.0	3611.3	3104.2	2669.8	2382.7	2066.5	1695.7	1328.5	78.1	34.6	25.5
35°	3962.0	3409.5	2962.4	2562.6	2282.7	1939.2	1561.2	1195.8	67.3	29.0	21.8
36°	3714.9	3220.5	2824.3	2455.3	2159.1	1801.1	1414.0	1059.6	58.2	23.6	20.0
37°	3467.7	3042.4	2688.0	2340.8	2015.6	1644.8	1259.5	917.8	50.9	20.0	16.4
38°	3233.3	2869.8	2553.5	2208.2	1848.3	1472.1	1099.5	776.1	43.7	18.2	14.5
39°	3013.3	2702.5	2415.4	2050.1	1675.7	1304.9	945.1	628.8	38.1	16.4	12.7
40°	2815.2	2544.4	2264.5	1873.8	1497.6	1134.1	788.8	468.9	32.7	12.7	10.9
42.5°	2397.2	2110.0	1741.1	1306.7	1012.3	657.9	367.1	174.5	23.6	9.1	9.1
45°	1582.9	1217.7	826.9	492.5	332.7	200.0	149.0	105.4	18.2	7.3	7.3
47.5°	528.9	336.2	245.3	176.4	150.9	119.9	96.3	65.4	12.7	5.4	5.4
50°	201.7	163.6	134.5	101.8	90.9	72.7	58.2	38.1	9.1	5.4	5.4
51°	158.1	129.0	105.4	79.9	72.7	58.2	47.2	32.7	7.3	5.4	5.4
52°	121.7	100.0	81.8	61.7	58.2	47.2	40.0	27.3	7.3	3.7	5.4
53°	92.7	76.4	61.7	47.2	45.4	38.1	32.7	21.8	5.4	3.7	5.4
54°	69.1	58.2	49.1	38.1	38.1	32.7	27.3	18.2	5.4	3.7	5.4
55°	52.8	43.7	38.1	29.0	30.9	27.3	23.6	14.5	5.4	3.7	5.4
57.5°	27.3	25.5	21.8	18.2	20.0	18.2	16.4	9.1	5.4	3.7	5.4
60°	16.4	14.5	12.7	10.9	12.7	12.7	12.7	5.4	5.4	3.7	5.4
61°	12.7	10.9	9.1	9.1	10.9	10.9	10.9	5.4	5.4	3.7	5.4
62°	9.1	9.1	7.3	7.3	10.9	9.1	9.1	5.4	5.4	3.7	5.4
63°	7.3	7.3	7.3	5.4	9.1	9.1	9.1	5.4	5.4	3.7	5.4
64°	5.4	5.4	5.4	5.4	7.3	9.1	9.1	3.7	5.4	3.7	5.4
65°	5.4	5.4	3.7	3.7	7.3	7.3	7.3	3.7	5.4	3.7	5.4
66°	3.7	3.7	3.7	3.7	7.3	7.3	7.3	3.7	5.4	3.7	5.4



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CATALOG NUMBER: LDA4A30940D010TE 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°	1.8	1.8	1.8	1.8	5.4	5.4	7.3	3.7	5.4	5.4	5.4
75°	1.8	1.8	1.8	1.8	5.4	5.4	7.3	3.7	5.4	5.4	5.4
77.5°	1.8	1.8	1.8	1.8	5.4	5.4	7.3	3.7	5.4	5.4	7.3
80°	1.8	1.8	1.8	1.8	5.4	5.4	7.3	3.7	5.4	5.4	7.3
82.5°	1.8	1.8	1.8	1.8	5.4	5.4	7.3	3.7	5.4	5.4	7.3
85°	1.8	1.8	1.8	1.8	5.4	5.4	7.3	3.7	5.4	5.4	7.3
87.5°	1.8	1.8	1.8	1.8	5.4	5.4	7.3	3.7	5.4	5.4	5.4
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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CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
0°	170.8	170.8	170.8
2.5°	129.0	123.6	119.9
5°	110.9	105.4	103.5
7.5°	103.5	101.8	103.5
10°	114.5	121.7	130.8
12.5°	152.6	179.9	194.4
15°	252.6	329.0	361.7
17.5°	445.3	507.0	543.4
20°	392.5	358.0	378.0
22.5°	212.6	185.3	190.9
25°	118.2	101.8	103.5
26°	94.4	81.8	81.8
27°	76.4	65.4	65.4
28°	61.7	52.8	52.8
29°	49.1	41.8	41.8
30°	40.0	34.6	34.6
31°	32.7	27.3	27.3
32°	27.3	23.6	21.8
33°	23.6	20.0	18.2
34°	20.0	16.4	14.5
35°	16.4	12.7	12.7
36°	14.5	10.9	10.9
37°	12.7	9.1	9.1
38°	10.9	7.3	7.3
39°	9.1	7.3	5.4
40°	7.3	5.4	3.7
42.5°	5.4	3.7	1.8
45°	5.4	1.8	0.0
47.5°	3.7	1.8	0.0
50°	3.7	0.0	0.0
51°	3.7	0.0	0.0
52°	3.7	0.0	0.0
53°	1.8	0.0	0.0
54°	3.7	0.0	0.0
55°	1.8	0.0	0.0
57.5°	3.7	0.0	0.0
60°	3.7	0.0	0.0
61°	3.7	0.0	0.0
62°	3.7	0.0	0.0
63°	3.7	0.0	0.0
64°	3.7	1.8	0.0
65°	3.7	1.8	0.0
66°	3.7	1.8	0.0



TEST NUMBER: P1191833

CATALOG NUMBER: LDA4A30940D010TE LAR15SP 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	3.7	1.8	0.0
75°	3.7	1.8	0.0
77.5°	3.7	1.8	0.0
80°	3.7	1.8	0.0
82.5°	3.7	1.8	0.0
85°	3.7	1.8	0.0
87.5°	3.7	1.8	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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1121 Highway 74 South

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— 0°-180° - - 45°-225° - - - 90°-270°

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67.5°	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	3.7	3.7
70°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	3.7	3.7	1.8	1.8

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67.5°	3.7	1.8	3.7	3.7	5.4	7.3	7.3	3.7	5.4	3.7	5.4
70°	1.8	1.8	1.8	1.8	5.4	5.4	7.3	3.7	5.4	3.7	5.4

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67.5°	3.7	1.8	0.0
70°	3.7	1.8	0.0

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Scaled Data Report



(END OF REPORT)