

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: P1191731

Luminaire Tested: **LDA4A25935D010TE LAR25NF 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: P1191731
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25649)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA4A25935D010TE LAR25NF 4LA1 30° Tilt
Description: PORTFOLIO 4" Adjustable Reflector, Self-flanged Trim Ring, 25°
Narrow Flood Optic, at 30° tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

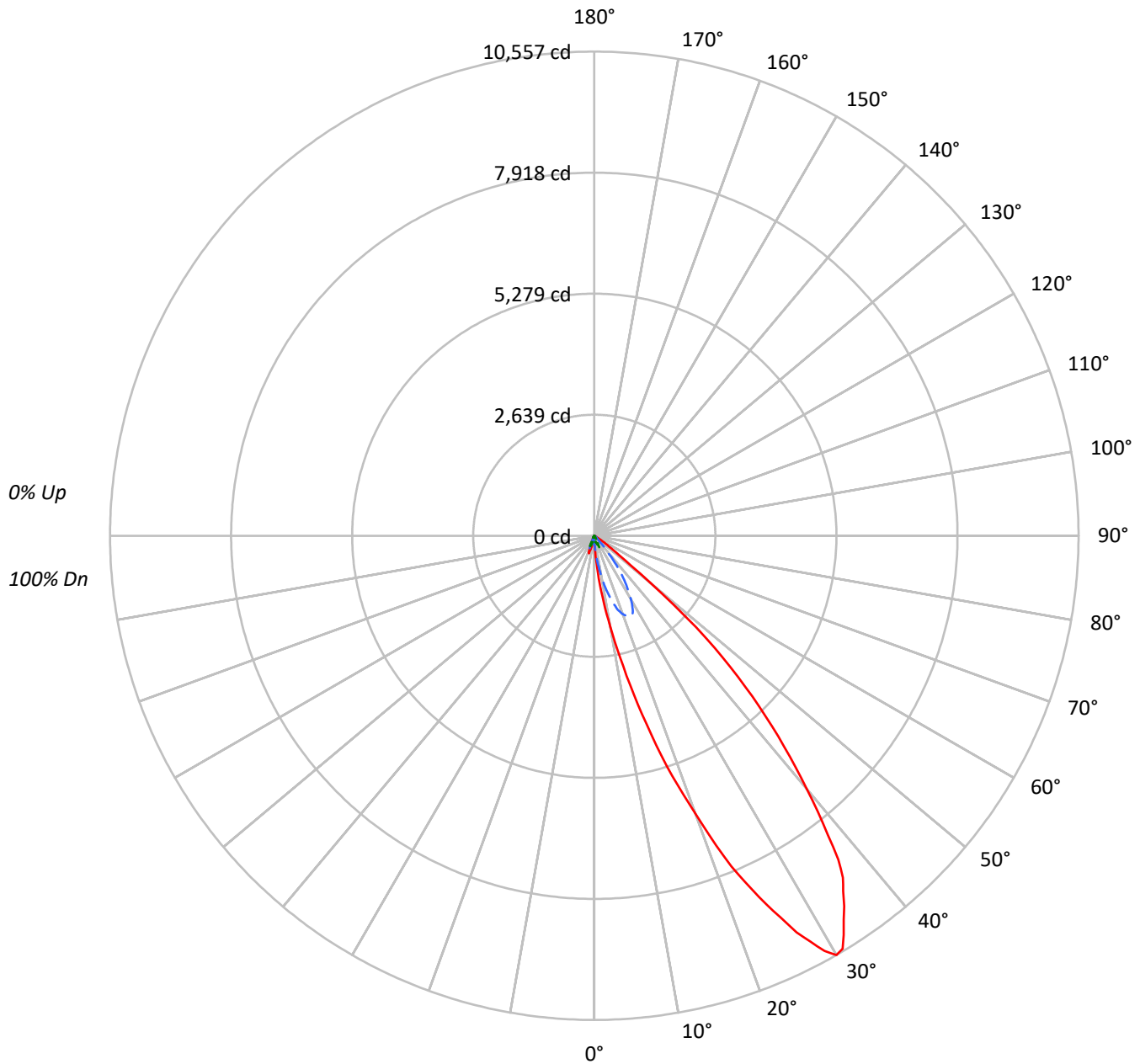
Lumens per Lamp: N/A
Luminaire Lumens: 2445.1 lumens
Efficiency: N/A
Efficacy: 79.1 lumens/watt
Spacing Criteria (0/90/45): 2.56 / 1.01 / 1.3
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 30.9
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	97	96			96
2	105	100	95	91	103	98	93	90		95	91	88			91	88	86			89
3	99	91	85	80	96	89	84	79		87	82	78			84	80	77			82
4	92	83	76	71	90	82	75	71		79	74	70			77	73	69			75
5	86	76	69	63	84	75	68	63		73	67	62			71	66	62			69
6	80	69	62	57	78	68	61	56		67	61	56			65	60	56			64
7	75	63	56	51	73	63	56	51		61	55	50			60	54	50			59
8	70	58	51	46	68	58	51	46		56	50	46			55	49	45			54
9	65	53	46	41	64	53	46	41		52	46	41			51	45	41			50
10	61	49	42	38	60	49	42	38		48	42	37			47	41	37			46

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	19994	19994	19994
5°	86833	18857	11416
10°	250409	16971	12425
15°	513098	18733	35857
20°	846533	34850	36307
25°	1205900	22252	12167
30°	1503562	9756	4771
35°	1424671	4427	2093
40°	1160348	2238	676
45°	812772	1221	0
50°	304551	806	0
55°	64880	903	0
60°	12409	691	0
65°	3677	1226	0
70°	1010	1515	0
75°	0	2002	0
80°	0	2983	0
85°	0	5944	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.0	1.4
10°-20°	292.8	12.0
20°-30°	748.0	30.6
30°-40°	866.3	35.4
40°-50°	446.9	18.3
50°-60°	46.1	1.9
60°-70°	5.0	0.2
70°-80°	3.2	0.1
80°-90°	2.9	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°	1074.8	44.0
0°-40°	1941.0	79.4
0°-60°	2434.1	99.6
0°-90°	2445.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2445.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	162	162	162	162	162	
5°	701	365	152	101	92	109
15°	4018	1471	147	196	281	1230
25°	8861	1921	164	102	89	4116
35°	9461	1051	29	17	14	5794
45°	4659	123	7	4	0	3489
55°	302	18	4	3	0	378
65°	13	4	4	3	0	16
75°	0	3	4	4	0	0
85°	0	3	4	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°	162.1	162.1	162.1	162.1	162.1	162.1	162.1	162.1	162.1	162.1	162.1
2.5°	279.4	269.6	262.7	265.5	280.8	264.1	265.5	259.8	257.1	254.3	247.3
5°	701.3	673.4	655.3	656.6	616.1	646.9	644.1	620.4	604.9	575.6	558.9
7.5°	1316.0	1256.1	1235.1	1228.1	1232.2	1202.9	1190.3	1159.6	1119.1	1066.0	1035.3
10°	1999.3	1963.0	1950.3	1928.0	1926.6	1874.9	1844.2	1805.1	1724.0	1650.0	1595.5
12.5°	2913.0	2801.2	2781.7	2739.7	2728.5	2640.6	2576.2	2519.0	2383.5	2285.7	2199.1
15°	4018.1	3927.3	3948.2	3819.7	3784.9	3640.9	3520.8	3397.8	3178.4	3029.0	2875.3
17.5°	5272.8	5156.7	5170.8	5010.1	4720.9	4747.4	4572.7	4403.7	4095.0	3895.2	3657.7
20°	6449.2	6366.7	6372.3	6158.5	6060.8	5795.3	5562.0	5360.7	4950.0	4695.7	4381.4
22.5°	7803.0	7589.2	7548.7	7258.1	7086.2	6729.9	6404.4	6137.6	5640.2	5353.8	4968.2
25°	8860.6	8713.9	8602.1	8258.4	8019.5	7555.7	7178.4	6783.0	6185.1	5867.9	5409.7
26°	9257.4	9119.0	8975.1	8604.9	8336.7	7846.3	7435.5	7010.7	6370.9	6031.4	5532.6
27°	9705.9	9479.4	9306.3	8891.3	8600.7	8085.1	7597.6	7196.6	6512.0	6136.2	5610.9
28°	10022.9	9796.6	9567.5	9116.2	8801.9	8262.6	7755.4	7318.1	6594.5	6186.5	5643.0
29°	10348.5	10108.2	9774.3	9282.5	8940.2	8372.9	7846.3	7378.2	6618.2	6183.7	5626.2
30°	10556.7	10315.0	9883.3	9376.1	9014.2	8417.7	7871.5	7367.0	6580.4	6127.8	5564.7
31°	10507.8	10285.6	9856.7	9385.9	9007.2	8391.1	7825.3	7287.4	6485.4	6028.6	5452.9
32°	10263.3	10074.7	9749.2	9320.2	8930.4	8300.3	7717.7	7161.6	6348.6	5912.6	5317.4
33°	9979.6	9823.2	9598.2	9187.5	8796.3	8163.4	7569.6	7006.6	6190.6	5754.8	5154.0
34°	9742.1	9601.0	9392.9	9008.6	8613.3	7980.4	7382.4	6811.0	6010.5	5569.0	4961.2
35°	9461.4	9332.8	9140.0	8767.0	8359.0	7734.5	7147.7	6584.7	5798.1	5348.2	4737.7
36°	9216.9	9014.2	8818.7	8455.5	8048.9	7436.9	6871.1	6319.2	5557.8	5095.3	4486.2
37°	8838.2	8635.6	8426.1	8082.4	7681.4	7096.0	6563.7	6035.6	5283.9	4905.3	4217.9
38°	8272.4	8178.7	7969.2	7642.3	7269.3	6720.2	6227.0	5712.9	4975.2	4537.9	3932.9
39°	7744.3	7667.5	7463.5	7164.4	6819.4	6316.4	5854.0	5349.6	4627.3	4213.7	3632.6
40°	7206.4	7129.5	6938.1	6668.5	6358.3	5895.9	5457.2	4962.5	4262.6	3879.8	3330.7
42.5°	5932.2	5852.5	5812.0	5536.9	5208.4	4811.7	4405.1	3958.0	3362.8	3048.6	2618.3
45°	4659.4	4586.8	4434.5	4321.3	4027.9	3698.2	3367.1	3002.4	2563.7	2253.6	1851.2
47.5°	3330.7	3295.8	3301.4	3091.9	2812.5	2552.5	2278.7	1949.0	1560.6	1170.8	859.2
50°	1587.1	1596.9	1636.1	1489.3	1279.8	1127.5	965.4	757.2	553.3	434.5	336.7
51°	1028.2	1039.4	1073.0	968.3	816.0	712.6	609.1	491.8	392.6	334.0	266.8
52°	695.8	695.8	702.8	641.3	565.8	507.2	447.1	378.6	306.0	262.7	211.0
53°	522.5	521.1	523.9	483.4	431.7	388.4	346.5	296.2	241.7	205.4	163.5
54°	399.6	398.2	401.0	370.2	334.0	301.7	269.6	232.0	187.2	153.7	122.9
55°	301.7	301.7	306.0	282.3	254.3	229.1	205.4	173.3	138.4	111.8	89.4
57.5°	121.6	121.6	125.7	117.3	104.8	95.0	86.6	74.0	61.5	51.7	41.9
60°	50.3	51.7	53.1	48.9	46.2	43.3	40.5	36.4	32.1	26.6	22.3
61°	37.8	37.8	39.1	36.4	34.9	32.1	30.7	28.0	25.1	21.0	18.2
62°	28.0	28.0	29.4	28.0	26.6	25.1	23.7	22.3	19.6	16.8	13.9
63°	21.0	21.0	22.3	21.0	21.0	19.6	18.2	16.8	15.3	12.6	11.2
64°	16.8	16.8	16.8	15.3	15.3	15.3	13.9	13.9	11.2	9.8	8.4
65°	12.6	12.6	12.6	12.6	11.2	11.2	11.2	9.8	9.8	7.0	7.0
66°	9.8	9.8	9.8	8.4	8.4	8.4	8.4	8.4	7.0	5.6	4.2

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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Peachtree City, GA 30269



TEST NUMBER: P1191731

CATALOG NUMBER: LDA4A25935D010TE LAR25NF 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	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
75°	0.0	0.0	0.0	0.0	1.4	1.4	1.4	1.4	1.4	1.4	1.4
77.5°	0.0	0.0	0.0	0.0	1.4	1.4	1.4	1.4	1.4	1.4	1.4
80°	0.0	0.0	0.0	0.0	0.0	1.4	1.4	1.4	1.4	1.4	1.4
82.5°	0.0	0.0	0.0	0.0	0.0	1.4	1.4	1.4	1.4	1.4	1.4
85°	0.0	0.0	0.0	0.0	0.0	1.4	1.4	1.4	1.4	1.4	1.4
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.4	1.4	1.4	1.4
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):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	67.5°	90°	112.5°
0°	162.1	162.1	162.1	162.1	162.1	162.1	162.1	162.1	162.1	162.1	162.1
2.5°	250.0	248.7	234.7	234.7	240.3	232.0	227.7	217.9	187.2	159.3	134.1
5°	553.3	537.8	490.4	476.5	475.0	435.9	413.5	364.7	213.8	152.3	115.9
7.5°	1021.3	975.2	894.1	850.8	797.8	767.0	712.6	628.7	243.1	142.5	104.8
10°	1510.2	1458.6	1338.5	1261.6	1221.1	1121.8	1031.1	916.6	272.5	135.5	103.4
12.5°	2070.5	1954.6	1840.0	1703.1	1581.5	1493.5	1342.6	1208.5	291.9	134.1	113.2
15°	2676.9	2531.6	2336.0	2151.6	1979.7	1854.0	1651.4	1471.2	299.0	146.7	148.0
17.5°	3355.9	3083.5	2801.2	2549.8	2313.7	2144.5	1893.1	1680.7	294.8	180.3	236.1
20°	3991.6	3629.7	3246.9	2897.6	2563.7	2344.4	2053.7	1823.2	296.2	265.5	318.5
22.5°	4496.0	4055.9	3589.2	3163.1	2739.7	2477.1	2160.0	1898.7	332.5	283.6	216.5
25°	4867.6	4349.3	3814.1	3323.7	2878.1	2583.3	2235.4	1921.1	310.1	163.5	122.9
26°	4966.8	4420.5	3856.0	3347.5	2894.9	2583.3	2224.2	1897.3	268.2	130.0	102.0
27°	5022.6	4452.7	3863.0	3336.4	2873.9	2553.9	2183.7	1849.8	219.3	109.0	86.6
28°	5029.6	4438.6	3828.1	3290.2	2815.2	2491.1	2111.0	1777.2	181.7	92.2	71.3
29°	4991.9	4386.9	3761.0	3213.4	2725.8	2398.8	2011.8	1687.8	155.1	79.7	60.1
30°	4912.3	4296.1	3659.0	3110.0	2609.9	2287.1	1895.9	1588.5	135.5	68.5	50.3
31°	4797.7	4171.8	3548.7	2987.1	2488.3	2175.3	1786.9	1487.9	120.2	57.3	41.9
32°	4649.6	4025.1	3406.2	2854.4	2379.3	2069.1	1682.1	1385.9	107.5	48.9	34.9
33°	4484.8	3858.9	3251.1	2716.0	2274.5	1960.1	1571.7	1278.4	96.4	40.5	29.4
34°	4294.7	3675.8	3086.2	2577.7	2162.7	1840.0	1453.0	1168.0	83.8	33.5	25.1
35°	4078.2	3471.9	2908.8	2451.9	2038.4	1710.1	1328.7	1050.7	74.0	29.4	21.0
36°	3843.5	3259.5	2729.9	2308.0	1904.3	1574.6	1197.3	931.9	64.2	25.1	18.2
37°	3597.6	3038.8	2551.1	2144.5	1756.1	1430.7	1061.8	803.3	55.8	21.0	15.3
38°	3337.7	2816.6	2377.9	1989.5	1599.7	1275.6	923.5	662.3	48.9	18.2	13.9
39°	3072.3	2597.3	2206.0	1819.1	1439.0	1123.3	790.8	514.1	43.3	15.3	12.6
40°	2812.5	2390.4	2024.5	1633.2	1278.4	973.8	662.3	378.6	37.8	13.9	9.8
42.5°	2227.0	1835.8	1453.0	1089.7	891.4	617.5	367.5	198.4	26.6	9.8	7.0
45°	1457.2	1085.6	783.7	530.9	461.1	261.2	170.5	122.9	19.6	7.0	5.6
47.5°	603.6	440.1	306.0	220.8	178.8	139.7	109.0	79.7	13.9	5.6	5.6
50°	265.5	209.5	166.2	130.0	113.2	90.8	69.9	48.9	8.4	4.2	4.2
51°	212.4	169.1	130.0	103.4	92.2	74.0	57.3	39.1	8.4	4.2	4.2
52°	167.6	131.3	102.0	79.7	74.0	60.1	47.5	32.1	7.0	4.2	4.2
53°	128.6	99.2	76.9	62.9	58.7	48.9	39.1	26.6	5.6	4.2	4.2
54°	95.0	75.4	60.1	48.9	47.5	39.1	32.1	22.3	5.6	4.2	4.2
55°	69.9	58.7	46.2	39.1	37.8	32.1	26.6	18.2	5.6	4.2	4.2
57.5°	36.4	30.7	25.1	22.3	22.3	21.0	18.2	11.2	4.2	2.8	4.2
60°	19.6	16.8	13.9	12.6	15.3	13.9	12.6	7.0	4.2	2.8	4.2
61°	15.3	13.9	11.2	9.8	12.6	11.2	11.2	5.6	4.2	4.2	4.2
62°	12.6	11.2	9.8	8.4	11.2	9.8	9.8	5.6	4.2	4.2	4.2
63°	9.8	8.4	7.0	7.0	9.8	9.8	8.4	4.2	4.2	4.2	4.2
64°	7.0	7.0	5.6	5.6	8.4	8.4	7.0	4.2	4.2	4.2	4.2
65°	5.6	5.6	4.2	4.2	7.0	7.0	7.0	4.2	4.2	4.2	4.2
66°	4.2	4.2	4.2	2.8	5.6	7.0	7.0	2.8	4.2	4.2	4.2



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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°	1.4	1.4	1.4	1.4	4.2	5.6	5.6	2.8	4.2	4.2	4.2
75°	1.4	1.4	1.4	1.4	4.2	5.6	5.6	2.8	4.2	4.2	4.2
77.5°	1.4	1.4	1.4	1.4	4.2	5.6	5.6	2.8	4.2	4.2	5.6
80°	1.4	1.4	1.4	1.4	4.2	5.6	5.6	2.8	4.2	4.2	5.6
82.5°	1.4	1.4	1.4	1.4	4.2	5.6	5.6	2.8	4.2	4.2	5.6
85°	1.4	1.4	1.4	1.4	4.2	5.6	5.6	2.8	4.2	4.2	5.6
87.5°	1.4	1.4	1.4	1.4	4.2	5.6	5.6	2.8	4.2	4.2	5.6
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: P1191731

CATALOG NUMBER: LDA4A25935D010TE LAR25NF 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
0°	162.1	162.1	162.1
2.5°	121.6	114.5	113.2
5°	100.6	93.6	92.2
7.5°	92.2	86.6	85.2
10°	95.0	96.4	99.2
12.5°	121.6	134.1	145.3
15°	195.6	245.9	280.8
17.5°	340.9	377.2	401.0
20°	299.0	275.2	276.6
22.5°	167.6	150.9	149.5
25°	102.0	92.2	89.4
26°	85.2	76.9	74.0
27°	69.9	62.9	60.1
28°	57.3	51.7	50.3
29°	48.9	41.9	40.5
30°	40.5	34.9	33.5
31°	33.5	29.4	28.0
32°	29.4	25.1	22.3
33°	23.7	21.0	19.6
34°	21.0	16.8	15.3
35°	16.8	13.9	13.9
36°	15.3	12.6	11.2
37°	12.6	9.8	9.8
38°	11.2	8.4	7.0
39°	9.8	7.0	5.6
40°	8.4	5.6	4.2
42.5°	5.6	2.8	1.4
45°	4.2	1.4	0.0
47.5°	2.8	1.4	0.0
50°	2.8	0.0	0.0
51°	2.8	0.0	0.0
52°	2.8	0.0	0.0
53°	2.8	0.0	0.0
54°	2.8	0.0	0.0
55°	2.8	0.0	0.0
57.5°	2.8	0.0	0.0
60°	2.8	0.0	0.0
61°	2.8	0.0	0.0
62°	2.8	0.0	0.0
63°	2.8	1.4	0.0
64°	2.8	1.4	0.0
65°	2.8	1.4	0.0
66°	2.8	1.4	0.0



TEST NUMBER: P1191731

CATALOG NUMBER: LDA4A25935D010TE LAR25NF 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	4.2	1.4	0.0
75°	4.2	1.4	0.0
77.5°	4.2	1.4	0.0
80°	4.2	1.4	0.0
82.5°	4.2	1.4	0.0
85°	4.2	1.4	0.0
87.5°	2.8	1.4	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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— 0°-180° - - 45°-225° - - - 90°-270°

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67.5°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	4.2	2.8
70°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	1.4	1.4

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67.5°	2.8	2.8	2.8	2.8	5.6	5.6	5.6	2.8	4.2	4.2	4.2
70°	1.4	1.4	1.4	2.8	4.2	5.6	5.6	2.8	4.2	4.2	4.2

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67.5°	2.8	1.4	0.0
70°	2.8	1.4	0.0

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(END OF REPORT)