

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: P1191743

Luminaire Tested: **LDA4A25940D010TE 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: P1191743
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: LDA4A25940D010TE 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

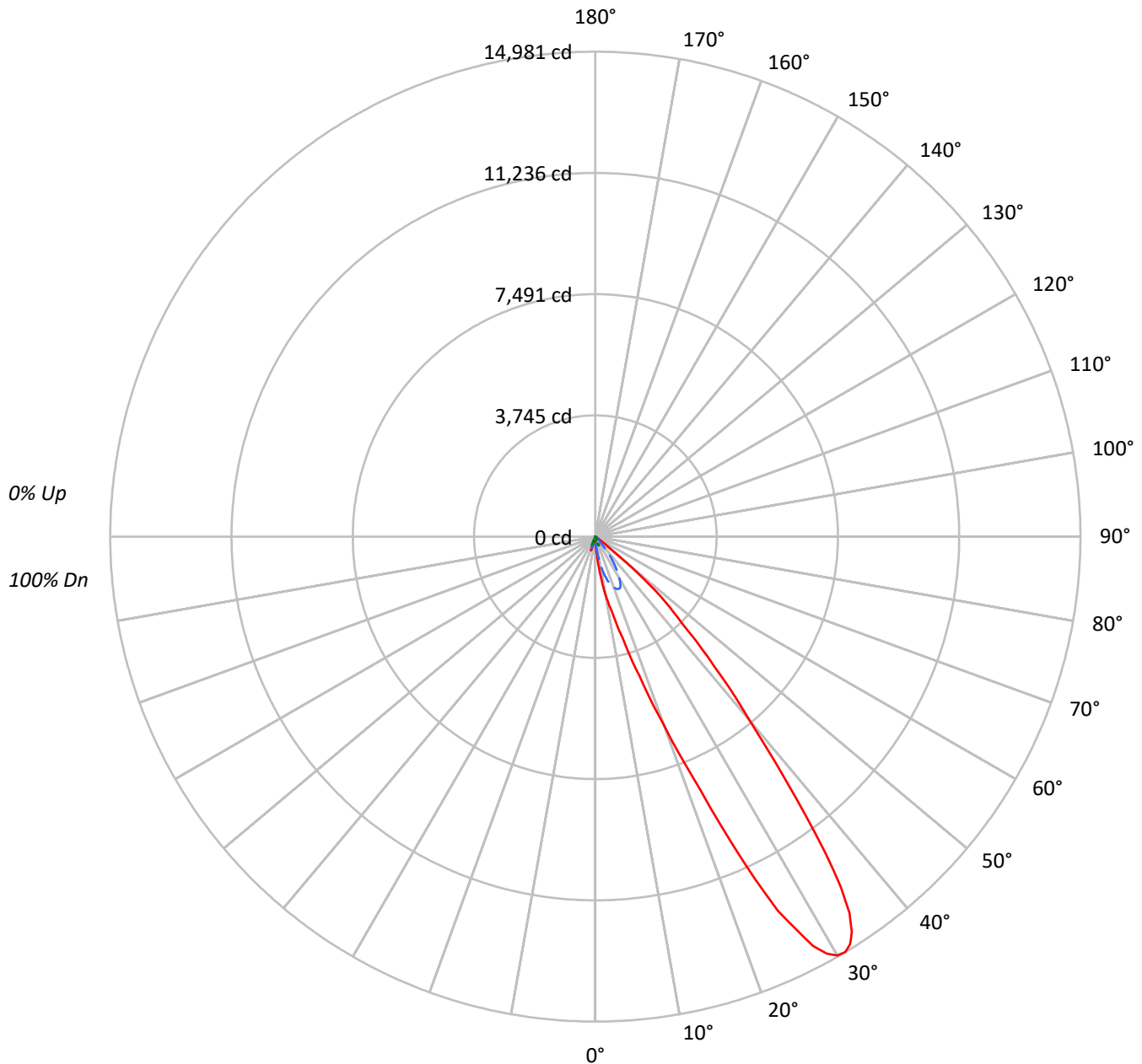
Lumens per Lamp: N/A
Luminaire Lumens: 2416.7 lumens
Efficiency: N/A
Efficacy: 78.2 lumens/watt
Spacing Criteria (0/90/45): 2.52 / 1.04 / 1.28
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 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	30	10
RCR																					
0	119	119	119	119		116	116	116	116		111	111	111		106	106	106		102	102	102
1	112	109	106	104		110	107	104	102		103	101	99		99	98	96		96	94	93
2	106	100	95	91		103	98	94	90		95	91	88		92	89	86		89	86	84
3	99	91	85	80		97	90	84	80		87	82	78		84	80	77		82	79	76
4	92	83	77	71		90	82	76	71		80	74	70		78	73	69		76	72	68
5	86	76	69	64		84	75	68	63		73	67	63		71	66	62		70	65	62
6	80	69	62	57		79	69	62	57		67	61	56		65	60	56		64	59	56
7	75	64	56	51		73	63	56	51		62	55	51		60	55	50		59	54	50
8	70	58	51	46		69	58	51	46		57	50	46		55	50	46		54	49	45
9	65	54	47	42		64	53	46	42		52	46	41		51	45	41		50	45	41
10	61	49	42	38		60	49	42	38		48	42	38		47	41	37		46	41	37

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	17392	17392	17392
5°	77992	16344	10586
10°	230870	15030	13527
15°	412167	17801	38117
20°	816448	35047	40954
25°	1588740	22864	11636
30°	2128120	8546	4059
35°	1991308	3599	1566
40°	1193276	1675	483
45°	662198	1047	0
50°	242916	864	0
55°	37096	645	0
60°	8141	740	0
65°	2627	876	0
70°	541	1082	0
75°	0	2145	0
80°	0	3196	0
85°	0	6369	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.0	1.3
10°-20°	261.1	10.8
20°-30°	779.2	32.2
30°-40°	922.9	38.2
40°-50°	382.8	15.8
50°-60°	29.8	1.2
60°-70°	4.1	0.2
70°-80°	3.1	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°	1071.2	44.3
0°-40°	1994.1	82.5
0°-60°	2406.7	99.6
0°-90°	2416.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2416.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	141	141	141	141	141	
5°	630	318	132	92	86	100
15°	3228	1363	139	208	298	1065
25°	11674	1771	168	98	86	5332
35°	13224	987	24	14	10	7664
45°	3796	87	6	4	0	3095
55°	172	12	3	2	0	253
65°	9	3	3	3	0	11
75°	0	3	4	3	0	0
85°	0	3	4	3	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°	141.0	141.0	141.0	141.0	141.0	141.0	141.0	141.0	141.0	141.0	141.0
2.5°	244.5	232.5	238.5	227.9	233.9	223.5	216.0	223.5	223.5	217.5	208.5
5°	629.9	627.0	639.0	610.5	618.0	586.5	559.5	566.9	560.9	541.4	506.9
7.5°	1199.9	1187.9	1201.4	1160.9	1162.5	1109.9	1069.4	1078.4	1051.4	1018.4	958.5
10°	1843.3	1826.9	1841.8	1793.8	1784.9	1711.4	1654.4	1663.4	1601.9	1547.9	1456.4
12.5°	2401.3	2399.8	2351.8	2360.8	2342.9	2230.3	2194.3	2197.3	2113.3	2053.3	1943.8
15°	3227.7	3259.2	3268.2	3206.7	3095.8	2891.8	2801.8	2767.3	2630.8	2530.3	2372.8
17.5°	4498.2	4541.6	4393.1	4429.2	4246.2	3926.7	3748.2	3641.7	3385.3	3196.3	2911.3
20°	6220.0	6182.5	5968.0	5941.0	5629.1	5218.1	4843.1	4642.1	4247.7	3971.6	3556.3
22.5°	8442.8	8414.3	8046.8	7883.4	7231.0	6652.0	6166.0	5662.0	5075.6	4706.6	4142.7
25°	11673.6	11543.1	10835.1	10370.2	9222.8	8238.8	7429.0	6646.0	5747.5	5347.1	4630.1
26°	12863.0	12831.5	12093.6	11481.6	10098.7	8877.8	7785.9	7001.5	6011.6	5543.6	4768.1
27°	13576.9	13827.4	13140.4	12447.6	10935.6	9473.2	8207.4	7287.9	6217.0	5681.5	4856.6
28°	14317.9	14479.9	13865.0	12995.0	11606.1	9947.2	8526.9	7481.4	6343.0	5749.0	4886.6
29°	14725.9	14881.9	14310.4	13494.4	12045.6	10254.7	8715.8	7566.9	6389.5	5747.5	4859.6
30°	14941.8	15087.3	14529.4	13737.4	12227.0	10350.7	8756.3	7532.4	6344.4	5678.6	4783.2
31°	14980.8	15102.3	14551.8	13729.9	12158.0	10232.2	8642.4	7389.9	6224.5	5551.0	4667.7
32°	14848.8	14943.4	14383.9	13507.9	11847.6	9932.2	8405.4	7169.5	6041.5	5392.1	4519.2
33°	14539.8	14709.3	14026.9	13059.4	11307.6	9488.3	8069.3	6881.4	5813.6	5185.0	4337.6
34°	14028.3	14136.4	13430.0	12357.5	10587.7	8948.3	7656.9	6547.0	5552.5	4940.6	4132.2
35°	13224.5	13320.5	12539.0	11409.6	9767.3	8339.3	7185.9	6178.0	5260.0	4666.1	3904.2
36°	12111.5	12203.1	11385.6	10356.7	8939.3	7704.9	6689.5	5776.0	4943.6	4372.1	3662.7
37°	10811.2	10890.6	10163.2	9323.2	8126.4	7063.0	6187.0	5368.0	4609.1	4072.2	3433.3
38°	9554.2	9626.3	9038.3	8354.3	7341.9	6436.0	5686.1	4945.1	4264.1	3770.7	3191.7
39°	8420.3	8483.3	8009.4	7445.4	6595.0	5834.6	5186.6	4525.2	3917.7	3469.2	2942.8
40°	7410.9	7464.9	7075.0	6611.5	5917.0	5272.1	4700.6	4118.7	3578.7	3176.8	2710.2
42.5°	5440.1	5452.1	5219.5	4946.7	4406.6	4036.2	3629.7	3209.8	2815.3	2539.3	2242.3
45°	3796.2	3944.7	3793.2	3611.7	3224.7	2992.3	2732.8	2479.3	2251.3	1985.8	1691.9
47.5°	2729.7	2735.8	2645.8	2531.8	2225.8	2066.8	1853.9	1546.4	1319.9	943.4	700.5
50°	1265.9	1195.4	1199.9	1122.0	1000.4	795.0	664.4	474.0	377.9	270.0	217.5
51°	752.9	700.5	708.0	652.5	571.5	445.4	377.9	302.9	262.4	204.0	168.0
52°	439.4	421.5	420.0	394.5	335.9	308.9	273.0	227.9	199.5	157.5	130.5
53°	319.5	307.5	307.5	291.0	250.5	232.5	206.9	175.5	152.9	120.0	98.9
54°	238.5	229.5	229.5	219.0	202.5	173.9	156.0	130.5	114.0	93.0	73.5
55°	172.5	166.4	166.4	159.0	147.0	125.9	112.4	94.5	84.0	67.5	54.0
57.5°	72.0	69.0	69.0	66.0	63.0	54.0	50.9	43.5	37.4	33.0	27.0
60°	33.0	31.5	33.0	31.5	28.5	30.0	25.5	22.5	21.0	18.0	15.0
61°	25.5	23.9	23.9	23.9	21.0	21.0	19.5	18.0	16.5	13.5	12.0
62°	19.5	18.0	18.0	18.0	16.5	16.5	15.0	13.5	13.5	10.4	9.0
63°	15.0	13.5	13.5	13.5	12.0	12.0	12.0	10.4	10.4	9.0	7.5
64°	10.4	10.4	10.4	10.4	10.4	9.0	9.0	9.0	7.5	6.0	6.0
65°	9.0	7.5	9.0	7.5	7.5	7.5	7.5	7.5	6.0	4.5	4.5
66°	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	4.5	3.0



TEST NUMBER: P1191743

CATALOG NUMBER: LDA4A25940D010TE 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	1.5	1.5	1.5	1.5	1.5	1.5	1.5
75°	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5	1.5	1.5	1.5
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5	1.5	1.5
80°	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5	1.5	1.5
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5	1.5	1.5
85°	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5	1.5	1.5	1.5
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	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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CANDELA DISTRIBUTION (continued):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	67.5°	90°	112.5°
0°	141.0	141.0	141.0	141.0	141.0	141.0	141.0	141.0	141.0	141.0	141.0
2.5°	204.0	210.0	205.5	193.4	199.5	196.5	190.5	186.0	159.0	138.0	117.0
5°	481.5	485.9	460.5	415.5	400.5	376.4	342.0	318.0	179.9	132.0	103.5
7.5°	910.5	880.4	856.5	772.4	736.4	681.0	614.9	568.4	205.5	124.5	96.0
10°	1378.4	1330.4	1280.9	1157.9	1093.4	1007.9	913.4	859.4	232.5	120.0	96.0
12.5°	1841.8	1777.4	1687.3	1552.4	1460.9	1345.4	1216.4	1120.4	252.0	123.0	111.0
15°	2243.8	2165.9	2066.8	1913.9	1807.3	1663.4	1495.3	1363.4	261.0	139.4	154.5
17.5°	2681.8	2540.8	2377.3	2182.3	2065.3	1898.8	1709.9	1549.4	261.0	177.0	247.5
20°	3185.7	2927.7	2665.3	2392.3	2227.4	2053.3	1850.8	1678.4	271.5	267.0	340.5
22.5°	3655.2	3299.7	2929.3	2573.7	2344.3	2155.3	1949.8	1751.9	315.0	294.0	226.5
25°	4019.7	3568.2	3131.7	2699.8	2440.3	2230.3	2009.9	1771.4	288.0	168.0	123.0
26°	4114.1	3626.7	3172.2	2714.8	2444.8	2228.8	2003.9	1750.4	241.4	133.5	98.9
27°	4163.7	3646.2	3175.3	2701.3	2426.8	2203.3	1970.8	1706.8	193.4	108.0	81.0
28°	4163.7	3623.7	3143.7	2663.8	2380.3	2155.3	1913.9	1637.8	157.5	88.5	64.4
29°	4121.6	3565.2	3080.8	2606.8	2317.3	2087.8	1835.8	1556.8	133.5	73.5	52.5
30°	4040.7	3479.7	2996.8	2533.3	2236.3	2011.3	1750.4	1472.9	115.5	60.0	42.0
31°	3926.7	3383.7	2893.2	2453.8	2161.3	1940.9	1672.3	1387.3	100.5	48.0	34.5
32°	3790.2	3263.8	2786.8	2371.3	2099.8	1874.9	1591.3	1297.4	87.0	40.5	30.0
33°	3632.7	3128.8	2675.7	2290.3	2039.8	1799.9	1502.8	1199.9	75.0	33.0	25.5
34°	3458.7	2980.3	2561.8	2203.3	1966.3	1705.4	1399.4	1096.4	64.4	28.5	21.0
35°	3269.8	2813.8	2444.8	2114.8	1883.8	1600.4	1288.4	986.9	55.5	23.9	18.0
36°	3065.8	2657.8	2330.8	2026.3	1781.8	1486.4	1166.9	874.4	48.0	19.5	16.5
37°	2861.8	2510.8	2218.3	1931.8	1663.4	1357.4	1039.4	757.4	42.0	16.5	13.5
38°	2668.3	2368.3	2107.3	1822.3	1525.4	1214.9	907.4	640.5	36.0	15.0	12.0
39°	2486.8	2230.3	1993.3	1691.9	1382.9	1076.9	779.9	518.9	31.5	13.5	10.4
40°	2323.3	2099.8	1868.8	1546.4	1235.9	935.9	650.9	387.0	27.0	10.4	9.0
42.5°	1978.3	1741.3	1436.9	1078.4	835.5	543.0	302.9	144.0	19.5	7.5	7.5
45°	1306.4	1004.9	682.4	406.5	274.5	165.0	123.0	87.0	15.0	6.0	6.0
47.5°	436.5	277.5	202.5	145.5	124.5	98.9	79.5	54.0	10.4	4.5	4.5
50°	166.4	135.0	111.0	84.0	75.0	60.0	48.0	31.5	7.5	4.5	4.5
51°	130.5	106.5	87.0	66.0	60.0	48.0	39.0	27.0	6.0	4.5	4.5
52°	100.5	82.5	67.5	50.9	48.0	39.0	33.0	22.5	6.0	3.0	4.5
53°	76.5	63.0	50.9	39.0	37.4	31.5	27.0	18.0	4.5	3.0	4.5
54°	57.0	48.0	40.5	31.5	31.5	27.0	22.5	15.0	4.5	3.0	4.5
55°	43.5	36.0	31.5	23.9	25.5	22.5	19.5	12.0	4.5	3.0	4.5
57.5°	22.5	21.0	18.0	15.0	16.5	15.0	13.5	7.5	4.5	3.0	4.5
60°	13.5	12.0	10.4	9.0	10.4	10.4	10.4	4.5	4.5	3.0	4.5
61°	10.4	9.0	7.5	7.5	9.0	9.0	9.0	4.5	4.5	3.0	4.5
62°	7.5	7.5	6.0	6.0	9.0	7.5	7.5	4.5	4.5	3.0	4.5
63°	6.0	6.0	6.0	4.5	7.5	7.5	7.5	4.5	4.5	3.0	4.5
64°	4.5	4.5	4.5	4.5	6.0	7.5	7.5	3.0	4.5	3.0	4.5
65°	4.5	4.5	3.0	3.0	6.0	6.0	6.0	3.0	4.5	3.0	4.5
66°	3.0	3.0	3.0	3.0	6.0	6.0	6.0	3.0	4.5	3.0	4.5



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CATALOG NUMBER: LDA4A25940D010TE 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°	1.5	1.5	1.5	1.5	4.5	4.5	6.0	3.0	4.5	4.5	4.5
75°	1.5	1.5	1.5	1.5	4.5	4.5	6.0	3.0	4.5	4.5	4.5
77.5°	1.5	1.5	1.5	1.5	4.5	4.5	6.0	3.0	4.5	4.5	6.0
80°	1.5	1.5	1.5	1.5	4.5	4.5	6.0	3.0	4.5	4.5	6.0
82.5°	1.5	1.5	1.5	1.5	4.5	4.5	6.0	3.0	4.5	4.5	6.0
85°	1.5	1.5	1.5	1.5	4.5	4.5	6.0	3.0	4.5	4.5	6.0
87.5°	1.5	1.5	1.5	1.5	4.5	4.5	6.0	3.0	4.5	4.5	4.5
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):

	135°	157.5°	180°
0°	141.0	141.0	141.0
2.5°	106.5	102.0	98.9
5°	91.5	87.0	85.5
7.5°	85.5	84.0	85.5
10°	94.5	100.5	108.0
12.5°	125.9	148.5	160.5
15°	208.5	271.5	298.5
17.5°	367.5	418.4	448.5
20°	323.9	295.4	312.0
22.5°	175.5	152.9	157.5
25°	97.5	84.0	85.5
26°	77.9	67.5	67.5
27°	63.0	54.0	54.0
28°	50.9	43.5	43.5
29°	40.5	34.5	34.5
30°	33.0	28.5	28.5
31°	27.0	22.5	22.5
32°	22.5	19.5	18.0
33°	19.5	16.5	15.0
34°	16.5	13.5	12.0
35°	13.5	10.4	10.4
36°	12.0	9.0	9.0
37°	10.4	7.5	7.5
38°	9.0	6.0	6.0
39°	7.5	6.0	4.5
40°	6.0	4.5	3.0
42.5°	4.5	3.0	1.5
45°	4.5	1.5	0.0
47.5°	3.0	1.5	0.0
50°	3.0	0.0	0.0
51°	3.0	0.0	0.0
52°	3.0	0.0	0.0
53°	1.5	0.0	0.0
54°	3.0	0.0	0.0
55°	1.5	0.0	0.0
57.5°	3.0	0.0	0.0
60°	3.0	0.0	0.0
61°	3.0	0.0	0.0
62°	3.0	0.0	0.0
63°	3.0	0.0	0.0
64°	3.0	1.5	0.0
65°	3.0	1.5	0.0
66°	3.0	1.5	0.0



TEST NUMBER: P1191743

CATALOG NUMBER: LDA4A25940D010TE LAR15SP 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	3.0	1.5	0.0
75°	3.0	1.5	0.0
77.5°	3.0	1.5	0.0
80°	3.0	1.5	0.0
82.5°	3.0	1.5	0.0
85°	3.0	1.5	0.0
87.5°	3.0	1.5	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°	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	3.0	3.0
70°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	3.0	3.0	1.5	1.5

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67.5°	3.0	1.5	3.0	3.0	4.5	6.0	6.0	3.0	4.5	3.0	4.5
70°	1.5	1.5	1.5	1.5	4.5	4.5	6.0	3.0	4.5	3.0	4.5

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67.5°	3.0	1.5	0.0
70°	3.0	1.5	0.0

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(END OF REPORT)