

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: P1212780

Luminaire Tested: **LDA4A25950D010TE 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: P1212780
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: LDA4A25950D010TE 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 / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

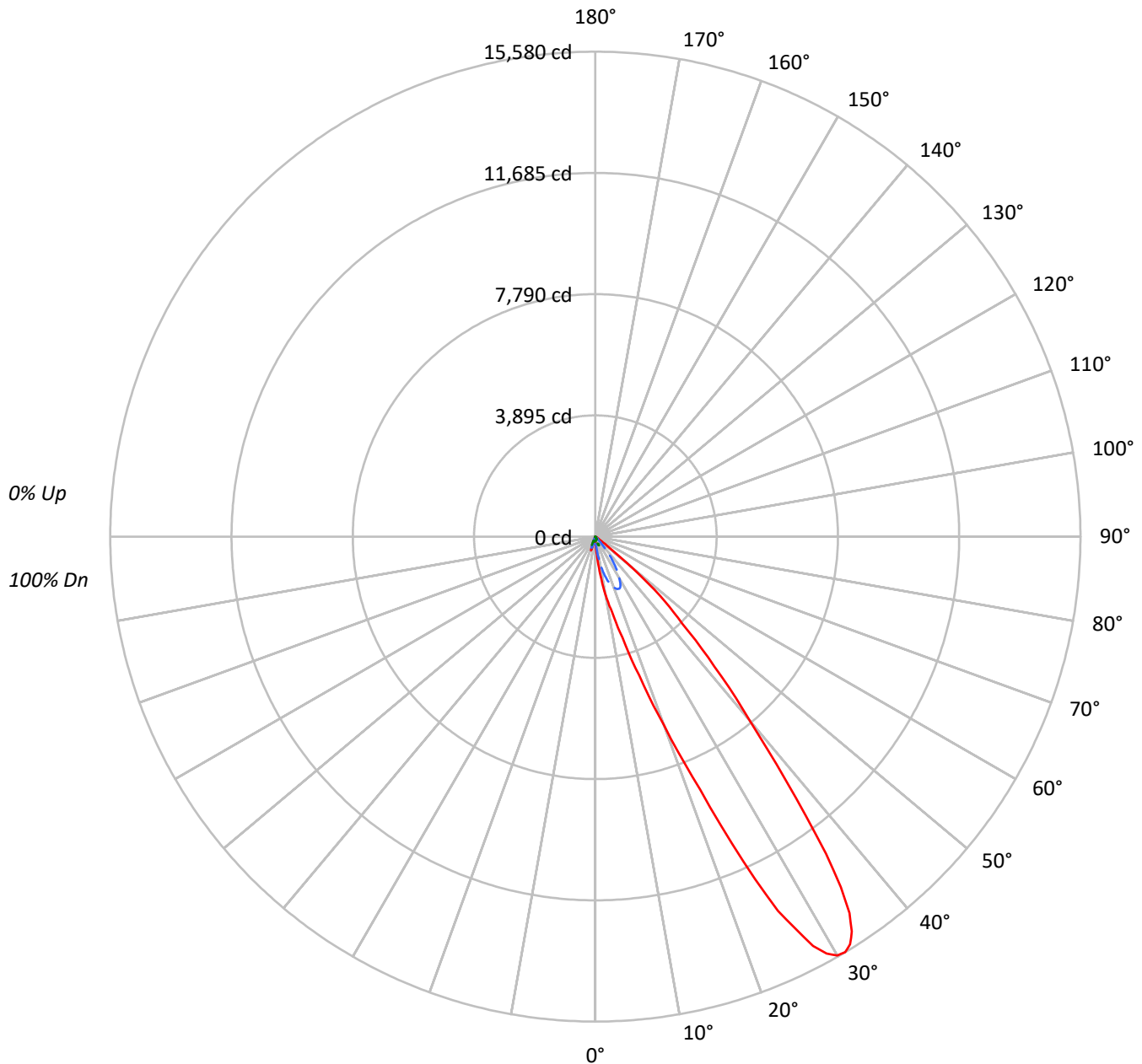
Lumens per Lamp: N/A
Luminaire Lumens: 2513.4 lumens
Efficiency: N/A
Efficacy: 81.3 lumens/watt
Spacing Criteria (0/90/45): 2.52 / 1.04 / 1.28
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 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	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°	18082	18082	18082
5°	81112	17000	11007
10°	240101	15631	14065
15°	428653	18516	39637
20°	849106	36451	42594
25°	1652284	23776	12099
30°	2213248	8887	4216
35°	2070964	3749	1626
40°	1241001	1739	499
45°	688678	1082	0
50°	252625	902	0
55°	38579	667	0
60°	8462	765	0
65°	2743	905	0
70°	577	1118	0
75°	0	2240	0
80°	0	3339	0
85°	0	6652	0

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.2	1.3
10°-20°	271.5	10.8
20°-30°	810.4	32.2
30°-40°	959.8	38.2
40°-50°	398.2	15.8
50°-60°	31.0	1.2
60°-70°	4.2	0.2
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°	1114.1	44.3
0°-40°	2073.9	82.5
0°-60°	2503.0	99.6
0°-90°	2513.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2513.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	147	147	147	147	147	
5°	655	331	137	95	89	104
15°	3357	1418	145	217	310	1108
25°	12140	1842	175	101	89	5545
35°	13754	1026	25	14	11	7970
45°	3948	90	6	5	0	3219
55°	179	12	3	2	0	263
65°	9	3	3	3	0	12
75°	0	3	5	3	0	0
85°	0	3	5	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°	146.6	146.6	146.6	146.6	146.6	146.6	146.6	146.6	146.6	146.6	146.6
2.5°	254.3	241.8	248.0	237.0	243.3	232.4	224.6	232.4	232.4	226.2	216.8
5°	655.1	652.1	664.6	634.9	642.7	610.0	581.9	589.6	583.3	563.1	527.2
7.5°	1247.9	1235.4	1249.5	1207.3	1209.0	1154.3	1112.2	1121.5	1093.5	1059.1	996.8
10°	1917.0	1900.0	1915.5	1865.6	1856.3	1779.9	1720.6	1729.9	1666.0	1609.8	1514.7
12.5°	2497.4	2495.8	2445.9	2455.2	2436.6	2319.5	2282.1	2285.2	2197.8	2135.4	2021.6
15°	3356.8	3389.6	3398.9	3335.0	3219.6	3007.5	2913.9	2878.0	2736.0	2631.5	2467.7
17.5°	4678.1	4723.3	4568.8	4606.4	4416.0	4083.8	3898.1	3787.4	3520.7	3324.2	3027.8
20°	6468.8	6429.8	6206.7	6178.6	5854.3	5426.8	5036.8	4827.8	4417.6	4130.5	3698.6
22.5°	8780.5	8750.9	8368.7	8198.7	7520.2	6918.1	6412.6	5888.5	5278.6	4894.9	4308.4
25°	12140.5	12004.8	11268.5	10785.0	9591.7	8568.4	7726.2	6911.8	5977.4	5561.0	4815.3
26°	13377.5	13344.8	12577.3	11940.9	10502.6	9232.9	8097.3	7281.6	6252.1	5765.3	4958.8
27°	14120.0	14380.5	13666.0	12945.5	11373.0	9852.1	8535.7	7579.4	6465.7	5908.8	5050.9
28°	14890.6	15059.1	14419.6	13514.8	12070.3	10345.1	8868.0	7780.7	6596.7	5979.0	5082.1
29°	15314.9	15477.2	14882.8	14034.2	12527.4	10664.9	9064.4	7869.6	6645.1	5977.4	5054.0
30°	15539.5	15690.8	15110.6	14286.9	12716.1	10764.7	9106.6	7833.7	6598.2	5905.7	4974.5
31°	15580.0	15706.4	15133.9	14279.1	12644.3	10641.5	8988.1	7685.5	6473.5	5773.0	4854.4
32°	15442.8	15541.1	14959.3	14048.2	12321.5	10329.5	8741.6	7456.3	6283.2	5607.8	4700.0
33°	15121.4	15297.7	14588.0	13581.8	11759.9	9867.8	8392.1	7156.7	6046.1	5392.4	4511.1
34°	14589.4	14701.9	13967.2	12851.8	11011.2	9306.2	7963.2	6808.9	5774.6	5138.2	4297.5
35°	13753.5	13853.3	13040.6	11866.0	10158.0	8672.9	7473.3	6425.1	5470.4	4852.7	4060.4
36°	12596.0	12691.2	11841.0	10771.0	9296.9	8013.1	6957.1	6007.0	5141.3	4547.0	3809.2
37°	11243.6	11326.2	10569.7	9696.1	8451.5	7345.5	6434.5	5582.7	4793.5	4235.1	3570.6
38°	9936.4	10011.4	9399.8	8688.5	7635.6	6693.4	5913.5	5142.9	4434.7	3921.5	3319.4
39°	8757.1	8822.6	8329.8	7743.2	6858.8	6068.0	5394.1	4706.2	4074.4	3608.0	3060.5
40°	7707.3	7763.5	7358.0	6876.0	6153.7	5483.0	4888.6	4283.4	3721.8	3303.9	2818.6
42.5°	5657.7	5670.2	5428.3	5144.6	4582.9	4197.6	3774.9	3338.2	2927.9	2640.9	2332.0
45°	3948.0	4102.5	3944.9	3756.2	3353.7	3112.0	2842.1	2578.5	2341.4	2065.2	1759.6
47.5°	2838.9	2845.2	2751.6	2633.1	2314.8	2149.5	1928.1	1608.3	1372.7	981.1	728.5
50°	1316.5	1243.2	1247.9	1166.9	1040.4	826.8	691.0	493.0	393.0	280.8	226.2
51°	783.0	728.5	736.3	678.6	594.4	463.2	393.0	315.0	272.9	212.2	174.7
52°	457.0	438.4	436.8	410.3	349.3	321.3	283.9	237.0	207.5	163.8	135.7
53°	332.3	319.8	319.8	302.6	260.5	241.8	215.2	182.5	159.0	124.8	102.9
54°	248.0	238.7	238.7	227.8	210.6	180.9	162.2	135.7	118.6	96.7	76.4
55°	179.4	173.1	173.1	165.4	152.9	130.9	116.9	98.3	87.4	70.2	56.2
57.5°	74.9	71.8	71.8	68.6	65.5	56.2	52.9	45.2	38.9	34.3	28.1
60°	34.3	32.8	34.3	32.8	29.6	31.2	26.5	23.4	21.8	18.7	15.6
61°	26.5	24.9	24.9	24.9	21.8	21.8	20.3	18.7	17.2	14.0	12.5
62°	20.3	18.7	18.7	18.7	17.2	17.2	15.6	14.0	14.0	10.8	9.4
63°	15.6	14.0	14.0	14.0	12.5	12.5	12.5	10.8	10.8	9.4	7.8
64°	10.8	10.8	10.8	10.8	10.8	9.4	9.4	9.4	7.8	6.2	6.2
65°	9.4	7.8	9.4	7.8	7.8	7.8	7.8	7.8	6.2	4.7	4.7
66°	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	4.7	3.1



TEST NUMBER: P1212780

CATALOG NUMBER: LDA4A25950D010TE 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	1.6	1.6	1.6	1.6	1.6	1.6	1.6
75°	0.0	0.0	0.0	0.0	0.0	1.6	1.6	1.6	1.6	1.6	1.6
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.6	1.6	1.6	1.6
80°	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.6	1.6	1.6	1.6
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.6	1.6	1.6	1.6
85°	0.0	0.0	0.0	0.0	0.0	1.6	1.6	1.6	1.6	1.6	1.6
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.6	1.6	1.6	1.6
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°	146.6	146.6	146.6	146.6	146.6	146.6	146.6	146.6	146.6	146.6	146.6
2.5°	212.2	218.4	213.7	201.1	207.5	204.4	198.1	193.4	165.4	143.5	121.7
5°	500.8	505.3	478.9	432.1	416.5	391.5	355.7	330.7	187.1	137.3	107.6
7.5°	946.9	915.6	890.8	803.3	765.9	708.2	639.5	591.1	213.7	129.5	99.8
10°	1433.5	1383.6	1332.1	1204.2	1137.1	1048.2	949.9	893.8	241.8	124.8	99.8
12.5°	1915.5	1848.5	1754.8	1614.5	1519.3	1399.2	1265.1	1165.2	262.1	127.9	115.4
15°	2333.6	2252.5	2149.5	1990.5	1879.6	1729.9	1555.1	1417.9	271.4	145.0	160.7
17.5°	2789.1	2642.4	2472.4	2269.6	2147.9	1974.8	1778.3	1611.4	271.4	184.1	257.4
20°	3313.1	3044.8	2771.9	2488.0	2316.5	2135.4	1924.8	1745.5	282.4	277.7	354.1
22.5°	3801.4	3431.7	3046.5	2676.6	2438.1	2241.5	2027.8	1822.0	327.6	305.8	235.6
25°	4180.5	3710.9	3257.0	2807.8	2537.9	2319.5	2090.3	1842.3	299.5	174.7	127.9
26°	4278.7	3771.8	3299.1	2823.4	2542.6	2318.0	2084.1	1820.4	251.1	138.8	102.9
27°	4330.2	3792.0	3302.3	2809.4	2523.9	2291.4	2049.6	1775.1	201.1	112.3	84.2
28°	4330.2	3768.6	3269.4	2770.4	2475.5	2241.5	1990.5	1703.3	163.8	92.0	67.0
29°	4286.5	3707.8	3204.0	2711.1	2410.0	2171.3	1909.2	1619.1	138.8	76.4	54.6
30°	4202.3	3618.9	3116.7	2634.6	2325.8	2091.8	1820.4	1531.8	120.1	62.4	43.7
31°	4083.8	3519.0	3008.9	2552.0	2247.8	2018.5	1739.2	1442.8	104.5	49.9	35.9
32°	3941.8	3394.4	2898.3	2466.2	2183.8	1949.9	1655.0	1349.3	90.5	42.1	31.2
33°	3778.0	3254.0	2782.7	2381.9	2121.4	1871.9	1562.9	1247.9	78.0	34.3	26.5
34°	3597.0	3099.5	2664.3	2291.4	2045.0	1773.6	1455.4	1140.3	67.0	29.6	21.8
35°	3400.6	2926.4	2542.6	2199.4	1959.2	1664.4	1339.9	1026.4	57.7	24.9	18.7
36°	3188.4	2764.1	2424.0	2107.4	1853.1	1545.9	1213.6	909.4	49.9	20.3	17.2
37°	2976.3	2611.2	2307.0	2009.1	1729.9	1411.7	1081.0	787.7	43.7	17.2	14.0
38°	2775.0	2463.0	2191.6	1895.2	1586.4	1263.5	943.7	666.1	37.4	15.6	12.5
39°	2586.3	2319.5	2073.0	1759.6	1438.2	1120.0	811.1	539.7	32.8	14.0	10.8
40°	2416.2	2183.8	1943.6	1608.3	1285.3	973.3	676.9	402.5	28.1	10.8	9.4
42.5°	2057.4	1811.0	1494.4	1121.5	868.9	564.7	315.0	149.8	20.3	7.8	7.8
45°	1358.7	1045.1	709.7	422.8	285.5	171.6	127.9	90.5	15.6	6.2	6.2
47.5°	454.0	288.6	210.6	151.3	129.5	102.9	82.7	56.2	10.8	4.7	4.7
50°	173.1	140.4	115.4	87.4	78.0	62.4	49.9	32.8	7.8	4.7	4.7
51°	135.7	110.8	90.5	68.6	62.4	49.9	40.6	28.1	6.2	4.7	4.7
52°	104.5	85.8	70.2	52.9	49.9	40.6	34.3	23.4	6.2	3.1	4.7
53°	79.6	65.5	52.9	40.6	38.9	32.8	28.1	18.7	4.7	3.1	4.7
54°	59.3	49.9	42.1	32.8	32.8	28.1	23.4	15.6	4.7	3.1	4.7
55°	45.2	37.4	32.8	24.9	26.5	23.4	20.3	12.5	4.7	3.1	4.7
57.5°	23.4	21.8	18.7	15.6	17.2	15.6	14.0	7.8	4.7	3.1	4.7
60°	14.0	12.5	10.8	9.4	10.8	10.8	10.8	4.7	4.7	3.1	4.7
61°	10.8	9.4	7.8	7.8	9.4	9.4	9.4	4.7	4.7	3.1	4.7
62°	7.8	7.8	6.2	6.2	9.4	7.8	7.8	4.7	4.7	3.1	4.7
63°	6.2	6.2	6.2	4.7	7.8	7.8	7.8	4.7	4.7	3.1	4.7
64°	4.7	4.7	4.7	4.7	6.2	7.8	7.8	3.1	4.7	3.1	4.7
65°	4.7	4.7	3.1	3.1	6.2	6.2	6.2	3.1	4.7	3.1	4.7
66°	3.1	3.1	3.1	3.1	6.2	6.2	6.2	3.1	4.7	3.1	4.7



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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°	1.6	1.6	1.6	1.6	4.7	4.7	6.2	3.1	4.7	4.7	4.7
75°	1.6	1.6	1.6	1.6	4.7	4.7	6.2	3.1	4.7	4.7	4.7
77.5°	1.6	1.6	1.6	1.6	4.7	4.7	6.2	3.1	4.7	4.7	6.2
80°	1.6	1.6	1.6	1.6	4.7	4.7	6.2	3.1	4.7	4.7	6.2
82.5°	1.6	1.6	1.6	1.6	4.7	4.7	6.2	3.1	4.7	4.7	6.2
85°	1.6	1.6	1.6	1.6	4.7	4.7	6.2	3.1	4.7	4.7	6.2
87.5°	1.6	1.6	1.6	1.6	4.7	4.7	6.2	3.1	4.7	4.7	4.7
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°	146.6	146.6	146.6
2.5°	110.8	106.1	102.9
5°	95.2	90.5	88.9
7.5°	88.9	87.4	88.9
10°	98.3	104.5	112.3
12.5°	130.9	154.4	166.9
15°	216.8	282.4	310.4
17.5°	382.2	435.1	466.4
20°	336.9	307.2	324.5
22.5°	182.5	159.0	163.8
25°	101.4	87.4	88.9
26°	81.0	70.2	70.2
27°	65.5	56.2	56.2
28°	52.9	45.2	45.2
29°	42.1	35.9	35.9
30°	34.3	29.6	29.6
31°	28.1	23.4	23.4
32°	23.4	20.3	18.7
33°	20.3	17.2	15.6
34°	17.2	14.0	12.5
35°	14.0	10.8	10.8
36°	12.5	9.4	9.4
37°	10.8	7.8	7.8
38°	9.4	6.2	6.2
39°	7.8	6.2	4.7
40°	6.2	4.7	3.1
42.5°	4.7	3.1	1.6
45°	4.7	1.6	0.0
47.5°	3.1	1.6	0.0
50°	3.1	0.0	0.0
51°	3.1	0.0	0.0
52°	3.1	0.0	0.0
53°	1.6	0.0	0.0
54°	3.1	0.0	0.0
55°	1.6	0.0	0.0
57.5°	3.1	0.0	0.0
60°	3.1	0.0	0.0
61°	3.1	0.0	0.0
62°	3.1	0.0	0.0
63°	3.1	0.0	0.0
64°	3.1	1.6	0.0
65°	3.1	1.6	0.0
66°	3.1	1.6	0.0



TEST NUMBER: P1212780

CATALOG NUMBER: LDA4A25950D010TE LAR15SP 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	3.1	1.6	0.0
75°	3.1	1.6	0.0
77.5°	3.1	1.6	0.0
80°	3.1	1.6	0.0
82.5°	3.1	1.6	0.0
85°	3.1	1.6	0.0
87.5°	3.1	1.6	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



Report Generated By 670245859 / DESKTOP-T8S5UU9

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— 0°-180° - - 45°-225° - - - 90°-270°

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67.5°	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	3.1	3.1
70°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	3.1	3.1	1.6	1.6

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67.5°	3.1	1.6	3.1	3.1	4.7	6.2	6.2	3.1	4.7	3.1	4.7
70°	1.6	1.6	1.6	1.6	4.7	4.7	6.2	3.1	4.7	3.1	4.7

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67.5°	3.1	1.6	0.0
70°	3.1	1.6	0.0

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(END OF REPORT)