

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: P1191461

Luminaire Tested: **LDA4A10935D010TE 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: P1191461
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: LDA4A10935D010TE 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

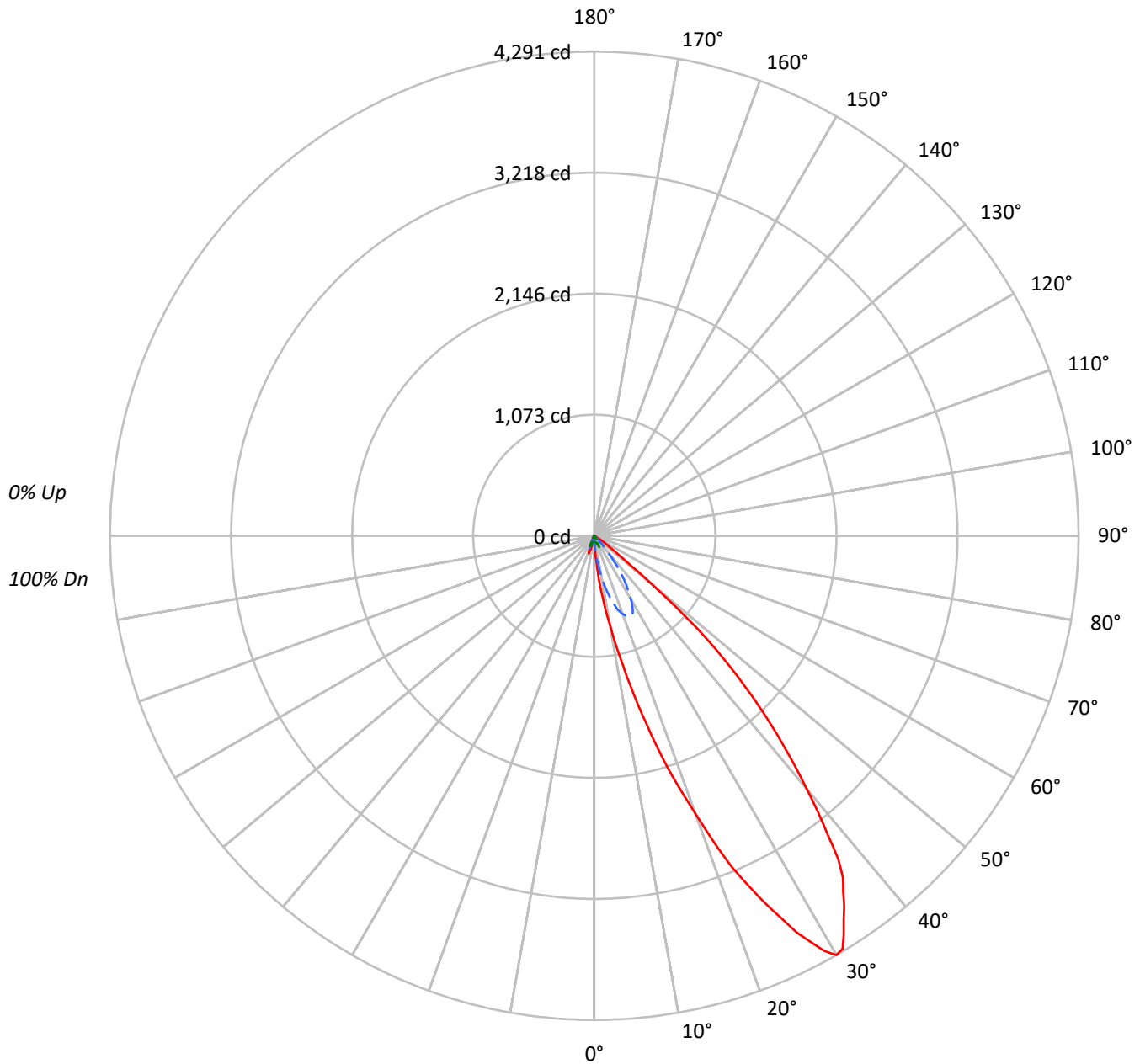
Lumens per Lamp: N/A
Luminaire Lumens: 993.7 lumens
Efficiency: N/A
Efficacy: 80.1 lumens/watt
Spacing Criteria (0/90/45): 2.56 / 1.01 / 1.3
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 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
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°	8128	8128	8128
5°	35300	7664	4631
10°	101789	6889	5060
15°	208554	7611	14570
20°	344076	14163	14767
25°	490126	9050	4940
30°	611127	3959	1937
35°	579045	1807	858
40°	471617	918	274
45°	330349	488	0
50°	123770	326	0
55°	26386	366	0
60°	5033	271	0
65°	1488	496	0
70°	397	613	0
75°	0	810	0
80°	0	1208	0
85°	0	2406	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	13.8	1.4
10°-20°	119.0	12.0
20°-30°	304.0	30.6
30°-40°	352.1	35.4
40°-50°	181.6	18.3
50°-60°	18.7	1.9
60°-70°	2.0	0.2
70°-80°	1.3	0.1
80°-90°	1.1	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°	436.8	44.0
0°-40°	788.9	79.4
0°-60°	989.3	99.6
0°-90°	993.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	993.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	66	66	66	66	66	
5°	285	148	62	41	37	44
15°	1633	598	60	80	114	500
25°	3601	781	66	41	36	1673
35°	3846	427	12	7	6	2355
45°	1894	50	3	2	0	1418
55°	123	7	2	1	0	154
65°	5	2	2	1	0	7
75°	0	1	2	2	0	0
85°	0	1	2	2	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°	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9
2.5°	113.6	109.5	106.7	107.9	114.1	107.4	107.9	105.6	104.4	103.3	100.5
5°	285.1	273.7	266.3	266.9	250.4	262.9	261.8	252.1	245.8	234.0	227.1
7.5°	535.0	510.5	502.0	499.2	500.8	488.9	483.8	471.3	454.9	433.3	420.7
10°	812.7	797.9	792.8	783.6	783.1	762.1	749.6	733.7	700.7	670.6	648.5
12.5°	1184.0	1138.6	1130.6	1113.5	1109.1	1073.3	1047.1	1023.8	968.8	928.9	893.8
15°	1633.2	1596.3	1604.8	1552.6	1538.3	1479.8	1430.9	1381.0	1291.8	1231.1	1168.7
17.5°	2143.1	2096.0	2101.7	2036.3	1918.8	1929.6	1858.5	1789.9	1664.4	1583.1	1486.6
20°	2621.3	2587.8	2590.0	2503.0	2463.3	2355.4	2260.7	2178.9	2011.9	1908.6	1780.8
22.5°	3171.5	3084.6	3068.1	2950.0	2880.2	2735.4	2603.0	2494.6	2292.4	2176.1	2019.3
25°	3601.3	3541.7	3496.3	3356.6	3259.5	3071.0	2917.7	2756.9	2513.9	2385.0	2198.7
26°	3762.7	3706.4	3647.9	3497.5	3388.4	3189.1	3022.1	2849.5	2589.4	2451.5	2248.7
27°	3944.9	3852.8	3782.5	3613.8	3495.7	3286.1	3088.0	2925.0	2646.7	2494.0	2280.5
28°	4073.8	3981.7	3888.6	3705.2	3577.5	3358.2	3152.1	2974.5	2680.2	2514.5	2293.5
29°	4206.0	4108.5	3972.7	3772.8	3633.8	3403.2	3189.1	2998.8	2689.9	2513.4	2286.8
30°	4290.8	4192.4	4017.0	3810.8	3663.8	3421.3	3199.3	2994.3	2674.6	2490.6	2261.8
31°	4270.9	4180.6	4006.2	3814.9	3661.0	3410.5	3180.6	2962.0	2636.0	2450.3	2216.3
32°	4171.4	4094.9	3962.5	3788.1	3629.7	3373.7	3136.9	2910.8	2580.4	2403.2	2161.3
33°	4056.1	3992.6	3901.1	3734.3	3575.2	3318.0	3076.6	2847.7	2516.2	2339.0	2094.8
34°	3959.6	3902.3	3817.7	3661.5	3500.8	3243.6	3000.6	2768.2	2442.9	2263.5	2016.5
35°	3845.5	3793.2	3714.9	3563.3	3397.5	3143.6	2905.2	2676.3	2356.6	2173.8	1925.5
36°	3746.1	3663.8	3584.3	3436.7	3271.4	3022.7	2792.7	2568.4	2258.9	2071.0	1823.4
37°	3592.2	3509.9	3424.7	3285.0	3122.1	2884.2	2667.7	2453.1	2147.7	1993.7	1714.3
38°	3362.3	3324.2	3239.0	3106.2	2954.6	2731.4	2530.9	2321.9	2022.1	1844.4	1598.6
39°	3147.6	3116.4	3033.4	2911.9	2771.7	2567.2	2379.4	2174.3	1880.7	1712.7	1476.4
40°	2929.0	2897.8	2820.0	2710.4	2584.3	2396.3	2218.0	2017.0	1732.6	1576.9	1353.7
42.5°	2411.1	2378.7	2362.3	2250.5	2117.0	1955.7	1790.4	1608.7	1366.9	1239.1	1064.2
45°	1893.8	1864.3	1802.4	1756.4	1637.2	1503.2	1368.5	1220.4	1042.1	916.0	752.4
47.5°	1353.7	1339.6	1341.9	1256.7	1143.1	1037.5	926.1	792.1	634.3	475.9	349.3
50°	645.0	649.1	664.9	605.3	520.2	458.3	392.4	307.7	224.8	176.5	136.8
51°	417.9	422.5	436.1	393.5	331.7	289.7	247.6	199.9	159.6	135.7	108.5
52°	282.8	282.8	285.6	260.6	230.0	206.1	181.8	153.9	124.3	106.7	85.7
53°	212.3	211.8	213.0	196.5	175.5	157.8	140.9	120.4	98.2	83.4	66.5
54°	162.4	161.9	162.9	150.4	135.7	122.7	109.5	94.3	76.0	62.4	49.9
55°	122.7	122.7	124.3	114.8	103.3	93.1	83.4	70.4	56.2	45.5	36.3
57.5°	49.4	49.4	51.1	47.6	42.5	38.6	35.2	30.1	25.0	21.0	17.1
60°	20.4	21.0	21.5	19.9	18.7	17.6	16.4	14.8	13.1	10.8	9.0
61°	15.3	15.3	15.9	14.8	14.1	13.1	12.5	11.3	10.2	8.5	7.4
62°	11.3	11.3	12.0	11.3	10.8	10.2	9.7	9.0	7.9	6.8	5.7
63°	8.5	8.5	9.0	8.5	8.5	7.9	7.4	6.8	6.2	5.1	4.6
64°	6.8	6.8	6.8	6.2	6.2	6.2	5.7	5.7	4.6	3.9	3.4
65°	5.1	5.1	5.1	5.1	4.6	4.6	4.6	3.9	3.9	2.8	2.8
66°	3.9	3.9	3.9	3.4	3.4	3.4	3.4	3.4	2.8	2.3	1.7



TEST NUMBER: P1191461

CATALOG NUMBER: LDA4A10935D010TE 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	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
75°	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5
77.5°	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5
80°	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.5
82.5°	0.0	0.0	0.0	0.0	0.0	0.5	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°	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9
2.5°	101.6	101.1	95.4	95.4	97.7	94.3	92.6	88.5	76.0	64.7	54.5
5°	224.8	218.6	199.3	193.6	193.1	177.2	168.1	148.3	86.9	61.9	47.1
7.5°	415.1	396.4	363.4	345.8	324.3	311.8	289.7	255.5	98.8	58.0	42.5
10°	613.8	592.8	544.0	512.8	496.3	456.0	419.1	372.6	110.7	55.0	42.0
12.5°	841.6	794.4	747.8	692.2	642.9	607.1	545.7	491.2	118.7	54.5	46.0
15°	1088.0	1028.9	949.5	874.6	804.6	753.6	671.3	597.9	121.5	59.6	60.2
17.5°	1363.9	1253.2	1138.6	1036.3	940.4	871.6	769.5	683.1	119.9	73.2	95.9
20°	1622.4	1475.3	1319.7	1177.7	1042.1	952.9	834.7	741.1	120.4	107.9	129.4
22.5°	1827.3	1648.5	1458.8	1285.6	1113.5	1006.8	877.9	771.8	135.1	115.3	88.0
25°	1978.4	1767.7	1550.3	1350.9	1169.8	1050.0	908.6	780.8	126.1	66.5	49.9
26°	2018.8	1796.8	1567.2	1360.6	1176.6	1050.0	904.0	771.1	109.0	52.9	41.4
27°	2041.4	1809.7	1570.2	1356.0	1168.0	1038.0	887.5	751.9	89.2	44.3	35.2
28°	2044.2	1804.0	1555.9	1337.3	1144.2	1012.5	858.0	722.3	73.9	37.4	28.9
29°	2029.0	1783.1	1528.6	1306.1	1107.9	975.1	817.7	685.9	63.1	32.4	24.5
30°	1996.6	1746.2	1487.2	1264.1	1060.8	929.6	770.6	645.7	55.0	27.8	20.4
31°	1950.0	1695.6	1442.4	1214.0	1011.4	884.1	726.3	604.8	48.8	23.3	17.1
32°	1889.9	1636.0	1384.4	1160.1	967.0	840.9	683.7	563.3	43.7	19.9	14.1
33°	1822.9	1568.4	1321.4	1104.0	924.5	796.7	638.8	519.6	39.2	16.4	12.0
34°	1745.5	1494.0	1254.4	1047.7	879.0	747.8	590.5	474.7	34.0	13.6	10.2
35°	1657.5	1411.1	1182.3	996.6	828.4	695.1	540.1	427.1	30.1	12.0	8.5
36°	1562.1	1324.8	1109.6	938.1	773.9	639.9	486.7	378.8	26.1	10.2	7.4
37°	1462.3	1235.0	1037.0	871.6	713.8	581.5	431.5	326.5	22.7	8.5	6.2
38°	1356.5	1144.8	966.5	808.6	650.2	518.4	375.4	269.1	19.9	7.4	5.7
39°	1248.7	1055.7	896.6	739.3	584.9	456.5	321.4	209.0	17.6	6.2	5.1
40°	1143.1	971.6	822.8	663.9	519.6	395.8	269.1	153.9	15.3	5.7	3.9
42.5°	905.1	746.2	590.5	442.9	362.3	250.9	149.3	80.6	10.8	3.9	2.8
45°	592.3	441.2	318.6	215.8	187.4	106.2	69.3	49.9	7.9	2.8	2.3
47.5°	245.3	178.8	124.3	89.7	72.7	56.8	44.3	32.4	5.7	2.3	2.3
50°	107.9	85.2	67.6	52.9	46.0	36.9	28.4	19.9	3.4	1.7	1.7
51°	86.4	68.7	52.9	42.0	37.4	30.1	23.3	15.9	3.4	1.7	1.7
52°	68.1	53.4	41.4	32.4	30.1	24.5	19.4	13.1	2.8	1.7	1.7
53°	52.2	40.4	31.2	25.6	23.8	19.9	15.9	10.8	2.3	1.7	1.7
54°	38.6	30.7	24.5	19.9	19.4	15.9	13.1	9.0	2.3	1.7	1.7
55°	28.4	23.8	18.7	15.9	15.3	13.1	10.8	7.4	2.3	1.7	1.7
57.5°	14.8	12.5	10.2	9.0	9.0	8.5	7.4	4.6	1.7	1.1	1.7
60°	7.9	6.8	5.7	5.1	6.2	5.7	5.1	2.8	1.7	1.1	1.7
61°	6.2	5.7	4.6	3.9	5.1	4.6	4.6	2.3	1.7	1.7	1.7
62°	5.1	4.6	3.9	3.4	4.6	3.9	3.9	2.3	1.7	1.7	1.7
63°	3.9	3.4	2.8	2.8	3.9	3.9	3.4	1.7	1.7	1.7	1.7
64°	2.8	2.8	2.3	2.3	3.4	3.4	2.8	1.7	1.7	1.7	1.7
65°	2.3	2.3	1.7	1.7	2.8	2.8	2.8	1.7	1.7	1.7	1.7
66°	1.7	1.7	1.7	1.1	2.3	2.8	2.8	1.1	1.7	1.7	1.7



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CATALOG NUMBER: LDA4A10935D010TE LAR25NF 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	1.7	2.3	2.3	1.1	1.7	1.7	1.7
75°	0.5	0.5	0.5	0.5	1.7	2.3	2.3	1.1	1.7	1.7	1.7
77.5°	0.5	0.5	0.5	0.5	1.7	2.3	2.3	1.1	1.7	1.7	2.3
80°	0.5	0.5	0.5	0.5	1.7	2.3	2.3	1.1	1.7	1.7	2.3
82.5°	0.5	0.5	0.5	0.5	1.7	2.3	2.3	1.1	1.7	1.7	2.3
85°	0.5	0.5	0.5	0.5	1.7	2.3	2.3	1.1	1.7	1.7	2.3
87.5°	0.5	0.5	0.5	0.5	1.7	2.3	2.3	1.1	1.7	1.7	2.3
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°	65.9	65.9	65.9
2.5°	49.4	46.6	46.0
5°	40.9	38.1	37.4
7.5°	37.4	35.2	34.6
10°	38.6	39.2	40.4
12.5°	49.4	54.5	59.1
15°	79.5	100.0	114.1
17.5°	138.6	153.4	162.9
20°	121.5	111.8	112.5
22.5°	68.1	61.3	60.8
25°	41.4	37.4	36.3
26°	34.6	31.2	30.1
27°	28.4	25.6	24.5
28°	23.3	21.0	20.4
29°	19.9	17.1	16.4
30°	16.4	14.1	13.6
31°	13.6	12.0	11.3
32°	12.0	10.2	9.0
33°	9.7	8.5	7.9
34°	8.5	6.8	6.2
35°	6.8	5.7	5.7
36°	6.2	5.1	4.6
37°	5.1	3.9	3.9
38°	4.6	3.4	2.8
39°	3.9	2.8	2.3
40°	3.4	2.3	1.7
42.5°	2.3	1.1	0.5
45°	1.7	0.5	0.0
47.5°	1.1	0.5	0.0
50°	1.1	0.0	0.0
51°	1.1	0.0	0.0
52°	1.1	0.0	0.0
53°	1.1	0.0	0.0
54°	1.1	0.0	0.0
55°	1.1	0.0	0.0
57.5°	1.1	0.0	0.0
60°	1.1	0.0	0.0
61°	1.1	0.0	0.0
62°	1.1	0.0	0.0
63°	1.1	0.5	0.0
64°	1.1	0.5	0.0
65°	1.1	0.5	0.0
66°	1.1	0.5	0.0

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Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



TEST NUMBER: P1191461

CATALOG NUMBER: LDA4A10935D010TE LAR25NF 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	1.7	0.5	0.0
75°	1.7	0.5	0.0
77.5°	1.7	0.5	0.0
80°	1.7	0.5	0.0
82.5°	1.7	0.5	0.0
85°	1.7	0.5	0.0
87.5°	1.1	0.5	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

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Report Generated By 670245859 / DESKTOP-T8S5UU9

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— 0°-180° - - 45°-225° - - - 90°-270°

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67.5°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	1.7	1.1
70°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.5	0.5

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67.5°	1.1	1.1	1.1	1.1	2.3	2.3	2.3	1.1	1.7	1.7	1.7
70°	0.5	0.5	0.5	1.1	1.7	2.3	2.3	1.1	1.7	1.7	1.7

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67.5°	1.1	0.5	0.0
70°	1.1	0.5	0.0

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(END OF REPORT)