

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: P1191515

Luminaire Tested: **LDA4A15927D010TE 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: P1191515
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: LDA4A15927D010TE 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 / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

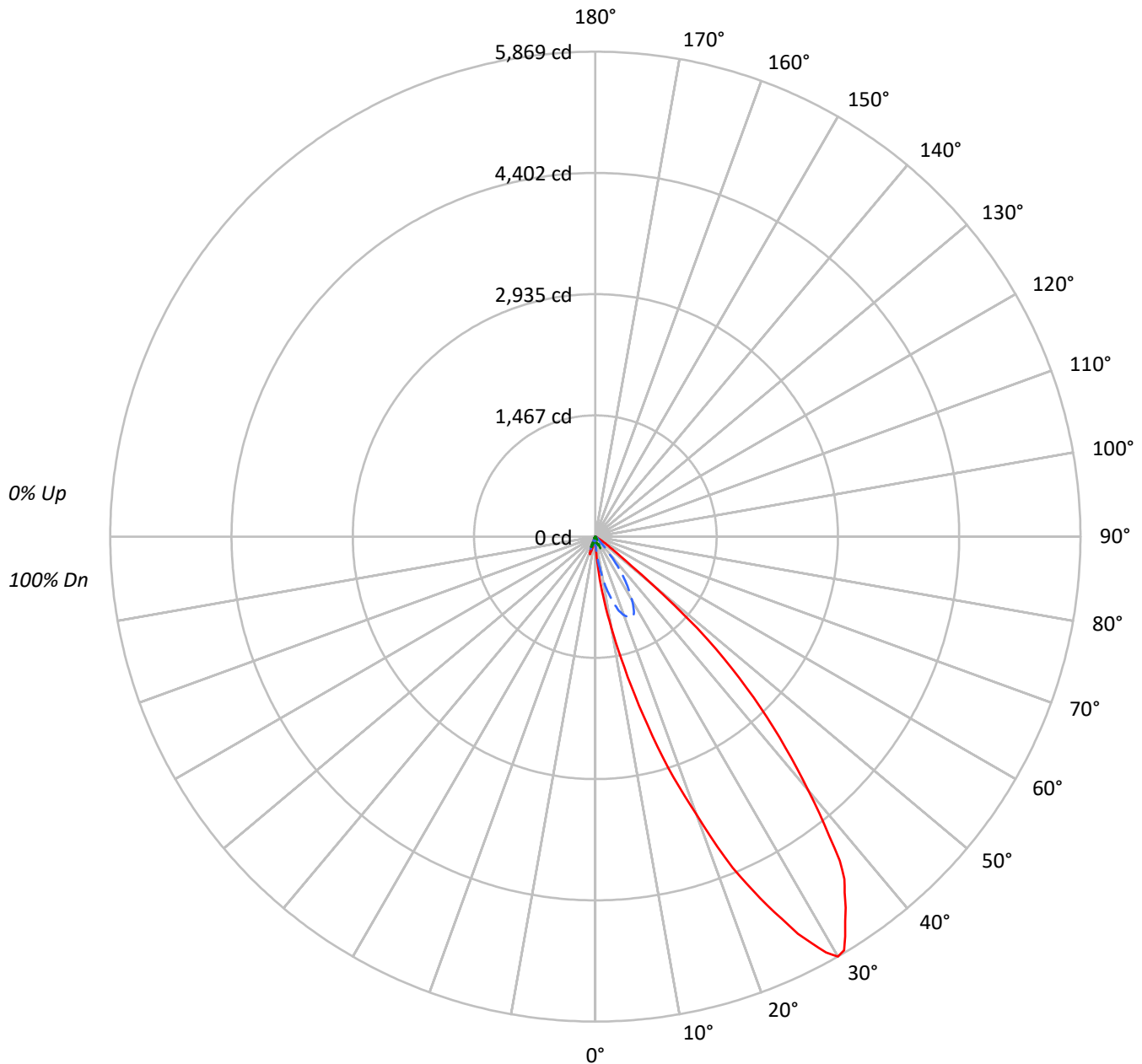
Lumens per Lamp: N/A
Luminaire Lumens: 1359.1 lumens
Efficiency: N/A
Efficacy: 66.6 lumens/watt
Spacing Criteria (0/90/45): 2.56 / 1.01 / 1.3
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 20.4
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°	11113	11113	11113
5°	48276	10487	6352
10°	139201	9431	6901
15°	285224	10407	19933
20°	470586	19361	20188
25°	670359	12358	6778
30°	835849	5412	2663
35°	791976	2469	1175
40°	645047	1256	370
45°	451827	663	0
50°	169306	441	0
55°	36063	495	0
60°	6907	370	0
65°	2043	671	0
70°	541	829	0
75°	0	1096	0
80°	0	1634	0
85°	0	3255	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	18.9	1.4
10°-20°	162.8	12.0
20°-30°	415.8	30.6
30°-40°	481.6	35.4
40°-50°	248.4	18.3
50°-60°	25.6	1.9
60°-70°	2.7	0.2
70°-80°	1.7	0.1
80°-90°	1.6	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°	597.5	44.0
0°-40°	1079.0	79.4
0°-60°	1353.1	99.6
0°-90°	1359.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1359.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	90	90	90	90	90	
5°	390	203	85	56	51	61
15°	2234	818	82	109	156	684
25°	4926	1068	91	57	50	2288
35°	5260	584	16	9	8	3221
45°	2590	68	4	2	0	1940
55°	168	10	2	2	0	210
65°	7	2	2	2	0	9
75°	0	2	2	2	0	0
85°	0	2	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°	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1
2.5°	155.3	149.9	146.0	147.5	156.1	146.7	147.5	144.4	142.9	141.4	137.5
5°	389.9	374.3	364.2	365.0	342.5	359.6	358.1	344.9	336.3	320.0	310.6
7.5°	731.6	698.2	686.6	682.6	685.0	668.7	661.8	644.6	622.1	592.6	575.5
10°	1111.4	1091.2	1084.2	1071.8	1071.0	1042.2	1025.2	1003.5	958.4	917.2	886.9
12.5°	1619.3	1557.3	1546.4	1523.0	1516.8	1468.0	1432.2	1400.3	1325.0	1270.6	1222.5
15°	2233.6	2183.2	2194.9	2123.5	2104.0	2024.1	1957.2	1888.9	1766.9	1683.8	1598.3
17.5°	2931.1	2866.6	2874.4	2785.1	2624.3	2639.1	2542.1	2448.0	2276.5	2165.3	2033.3
20°	3585.1	3539.3	3542.3	3423.6	3369.1	3221.6	3091.9	2980.1	2751.7	2610.4	2435.6
22.5°	4337.7	4218.8	4196.3	4034.7	3939.3	3741.1	3560.2	3412.0	3135.4	2976.1	2761.8
25°	4925.6	4844.1	4781.9	4590.8	4458.0	4200.3	3990.6	3770.7	3438.3	3262.0	3007.2
26°	5146.2	5069.3	4989.3	4783.5	4634.3	4361.7	4133.5	3897.3	3541.6	3352.9	3075.6
27°	5395.5	5269.7	5173.4	4942.6	4781.2	4494.6	4223.5	4000.6	3620.1	3411.1	3119.1
28°	5571.8	5446.0	5318.6	5067.7	4893.0	4593.1	4311.3	4068.1	3665.9	3439.1	3136.9
29°	5752.8	5619.2	5433.6	5160.2	4969.9	4654.5	4361.7	4101.6	3679.1	3437.5	3127.6
30°	5868.6	5734.1	5494.1	5212.2	5011.1	4679.5	4375.8	4095.4	3658.1	3406.5	3093.4
31°	5841.3	5717.9	5479.4	5217.7	5007.1	4664.6	4350.1	4051.1	3605.3	3351.3	3031.4
32°	5705.3	5600.6	5419.7	5181.2	4964.5	4614.1	4290.3	3981.1	3529.2	3286.9	2956.0
33°	5547.7	5460.7	5335.7	5107.4	4889.9	4538.1	4207.9	3895.0	3441.4	3199.1	2865.1
34°	5415.7	5337.3	5221.5	5008.0	4788.1	4436.3	4103.9	3786.3	3341.2	3095.7	2758.0
35°	5259.6	5188.1	5080.9	4873.6	4646.7	4299.7	3973.4	3660.4	3223.2	2973.1	2633.7
36°	5123.7	5011.1	4902.3	4700.3	4474.4	4134.1	3819.7	3512.9	3089.6	2832.6	2493.8
37°	4913.2	4800.6	4684.1	4493.1	4270.1	3944.7	3648.8	3355.2	2937.4	2726.9	2344.8
38°	4598.6	4546.6	4430.1	4248.4	4041.0	3735.8	3461.6	3175.8	2765.7	2522.6	2186.3
39°	4305.0	4262.3	4149.0	3982.8	3790.9	3511.4	3254.2	2973.8	2572.4	2342.5	2019.3
40°	4006.1	3963.3	3856.9	3707.1	3534.6	3277.5	3033.7	2758.8	2369.6	2156.9	1851.6
42.5°	3297.7	3253.5	3230.9	3077.9	2895.4	2674.8	2448.8	2200.2	1869.4	1694.7	1455.4
45°	2590.2	2549.7	2465.2	2402.2	2239.1	2055.8	1871.7	1669.1	1425.1	1252.8	1029.1
47.5°	1851.6	1832.2	1835.3	1718.7	1563.4	1419.0	1266.7	1083.4	867.5	650.9	477.7
50°	882.3	887.7	909.4	827.9	711.4	626.7	536.7	421.0	307.5	241.5	187.2
51°	571.6	577.8	596.5	538.2	453.5	396.1	338.6	273.4	218.2	185.6	148.4
52°	386.7	386.7	390.7	356.5	314.6	281.9	248.6	210.4	170.0	146.0	117.3
53°	290.5	289.6	291.3	268.8	240.0	215.9	192.5	164.6	134.3	114.1	90.8
54°	222.1	221.3	223.0	205.8	185.6	167.7	149.9	128.9	104.0	85.5	68.3
55°	167.7	167.7	170.0	157.0	141.4	127.4	114.1	96.3	76.9	62.2	49.8
57.5°	67.6	67.6	70.0	65.2	58.2	52.8	48.1	41.2	34.2	28.8	23.3
60°	28.0	28.8	29.5	27.1	25.6	24.1	22.5	20.2	17.9	14.7	12.4
61°	21.0	21.0	21.7	20.2	19.4	17.9	17.0	15.5	14.0	11.6	10.1
62°	15.5	15.5	16.4	15.5	14.7	14.0	13.2	12.4	10.9	9.3	7.8
63°	11.6	11.6	12.4	11.6	11.6	10.9	10.1	9.3	8.6	7.0	6.3
64°	9.3	9.3	9.3	8.6	8.6	8.6	7.8	7.8	6.3	5.5	4.6
65°	7.0	7.0	7.0	7.0	6.3	6.3	6.3	5.5	5.5	3.8	3.8
66°	5.5	5.5	5.5	4.6	4.6	4.6	4.6	4.6	3.8	3.1	2.3



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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	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
75°	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8
77.5°	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8
80°	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8	0.8
82.5°	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8	0.8
85°	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8	0.8
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8
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°	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1
2.5°	139.1	138.3	130.5	130.5	133.6	128.9	126.5	121.2	104.0	88.5	74.6
5°	307.5	299.0	272.6	264.8	264.0	242.3	229.9	202.8	118.8	84.7	64.5
7.5°	567.7	542.0	497.0	473.0	443.5	426.4	396.1	349.5	135.1	79.2	58.2
10°	839.6	810.8	744.0	701.3	678.8	623.7	573.1	509.5	151.5	75.3	57.4
12.5°	1151.0	1086.5	1022.9	946.8	879.1	830.3	746.3	671.9	162.3	74.6	62.9
15°	1488.1	1407.3	1298.6	1196.0	1100.6	1030.6	918.0	817.8	166.2	81.5	82.4
17.5°	1865.6	1714.1	1557.3	1417.4	1286.2	1192.2	1052.3	934.4	163.9	100.2	131.3
20°	2218.9	2017.8	1804.9	1610.9	1425.1	1303.2	1141.6	1013.6	164.6	147.5	177.1
22.5°	2499.3	2254.6	1995.3	1758.4	1523.0	1377.0	1200.7	1055.5	184.9	157.6	120.4
25°	2705.9	2417.7	2120.3	1847.7	1600.0	1436.0	1242.7	1067.9	172.4	90.8	68.3
26°	2761.1	2457.4	2143.6	1861.0	1609.2	1436.0	1236.4	1054.8	149.2	72.3	56.7
27°	2792.1	2475.3	2147.5	1854.7	1597.6	1419.7	1213.9	1028.3	121.9	60.5	48.1
28°	2796.0	2467.5	2128.1	1829.1	1565.0	1384.8	1173.5	988.0	100.9	51.3	39.5
29°	2775.0	2438.7	2090.7	1786.4	1515.3	1333.5	1118.5	938.2	86.2	44.3	33.4
30°	2730.8	2388.3	2034.1	1728.8	1450.8	1271.5	1054.0	883.1	75.3	38.0	28.0
31°	2667.1	2319.1	1972.8	1660.5	1383.3	1209.3	993.4	827.2	66.8	31.9	23.3
32°	2584.8	2237.6	1893.6	1586.7	1322.7	1150.2	935.0	770.5	59.9	27.1	19.4
33°	2493.1	2145.1	1807.4	1509.8	1264.4	1089.7	873.7	710.6	53.6	22.5	16.4
34°	2387.5	2043.4	1715.6	1432.9	1202.3	1022.9	807.7	649.2	46.6	18.7	14.0
35°	2267.1	1930.0	1617.0	1363.1	1133.2	950.6	738.5	584.0	41.2	16.4	11.6
36°	2136.6	1812.0	1517.6	1283.0	1058.6	875.3	665.6	518.0	35.7	14.0	10.1
37°	1999.9	1689.3	1418.2	1192.2	976.2	795.3	590.3	446.6	31.1	11.6	8.6
38°	1855.5	1565.7	1321.9	1105.9	889.2	709.1	513.4	368.2	27.1	10.1	7.8
39°	1708.0	1443.8	1226.3	1011.3	799.9	624.4	439.6	285.8	24.1	8.6	7.0
40°	1563.4	1328.9	1125.4	907.9	710.6	541.4	368.2	210.4	21.0	7.8	5.5
42.5°	1238.0	1020.5	807.7	605.9	495.5	343.2	204.3	110.3	14.7	5.5	3.8
45°	810.0	603.4	435.7	295.1	256.4	145.2	94.8	68.3	10.9	3.8	3.1
47.5°	335.5	244.6	170.0	122.7	99.4	77.7	60.5	44.3	7.8	3.1	3.1
50°	147.5	116.5	92.5	72.3	62.9	50.5	38.9	27.1	4.6	2.3	2.3
51°	118.1	94.0	72.3	57.4	51.3	41.2	31.9	21.7	4.6	2.3	2.3
52°	93.1	73.0	56.7	44.3	41.2	33.4	26.5	17.9	3.8	2.3	2.3
53°	71.5	55.1	42.7	34.9	32.6	27.1	21.7	14.7	3.1	2.3	2.3
54°	52.8	42.0	33.4	27.1	26.5	21.7	17.9	12.4	3.1	2.3	2.3
55°	38.9	32.6	25.6	21.7	21.0	17.9	14.7	10.1	3.1	2.3	2.3
57.5°	20.2	17.0	14.0	12.4	12.4	11.6	10.1	6.3	2.3	1.5	2.3
60°	10.9	9.3	7.8	7.0	8.6	7.8	7.0	3.8	2.3	1.5	2.3
61°	8.6	7.8	6.3	5.5	7.0	6.3	6.3	3.1	2.3	2.3	2.3
62°	7.0	6.3	5.5	4.6	6.3	5.5	5.5	3.1	2.3	2.3	2.3
63°	5.5	4.6	3.8	3.8	5.5	5.5	4.6	2.3	2.3	2.3	2.3
64°	3.8	3.8	3.1	3.1	4.6	4.6	3.8	2.3	2.3	2.3	2.3
65°	3.1	3.1	2.3	2.3	3.8	3.8	3.8	2.3	2.3	2.3	2.3
66°	2.3	2.3	2.3	1.5	3.1	3.8	3.8	1.5	2.3	2.3	2.3



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CATALOG NUMBER: LDA4A15927D010TE 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°	0.8	0.8	0.8	0.8	2.3	3.1	3.1	1.5	2.3	2.3	2.3
75°	0.8	0.8	0.8	0.8	2.3	3.1	3.1	1.5	2.3	2.3	2.3
77.5°	0.8	0.8	0.8	0.8	2.3	3.1	3.1	1.5	2.3	2.3	3.1
80°	0.8	0.8	0.8	0.8	2.3	3.1	3.1	1.5	2.3	2.3	3.1
82.5°	0.8	0.8	0.8	0.8	2.3	3.1	3.1	1.5	2.3	2.3	3.1
85°	0.8	0.8	0.8	0.8	2.3	3.1	3.1	1.5	2.3	2.3	3.1
87.5°	0.8	0.8	0.8	0.8	2.3	3.1	3.1	1.5	2.3	2.3	3.1
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°	90.1	90.1	90.1
2.5°	67.6	63.7	62.9
5°	55.9	52.1	51.3
7.5°	51.3	48.1	47.3
10°	52.8	53.6	55.1
12.5°	67.6	74.6	80.7
15°	108.7	136.6	156.1
17.5°	189.5	209.7	223.0
20°	166.2	153.0	153.8
22.5°	93.1	83.9	83.0
25°	56.7	51.3	49.8
26°	47.3	42.7	41.2
27°	38.9	34.9	33.4
28°	31.9	28.8	28.0
29°	27.1	23.3	22.5
30°	22.5	19.4	18.7
31°	18.7	16.4	15.5
32°	16.4	14.0	12.4
33°	13.2	11.6	10.9
34°	11.6	9.3	8.6
35°	9.3	7.8	7.8
36°	8.6	7.0	6.3
37°	7.0	5.5	5.5
38°	6.3	4.6	3.8
39°	5.5	3.8	3.1
40°	4.6	3.1	2.3
42.5°	3.1	1.5	0.8
45°	2.3	0.8	0.0
47.5°	1.5	0.8	0.0
50°	1.5	0.0	0.0
51°	1.5	0.0	0.0
52°	1.5	0.0	0.0
53°	1.5	0.0	0.0
54°	1.5	0.0	0.0
55°	1.5	0.0	0.0
57.5°	1.5	0.0	0.0
60°	1.5	0.0	0.0
61°	1.5	0.0	0.0
62°	1.5	0.0	0.0
63°	1.5	0.8	0.0
64°	1.5	0.8	0.0
65°	1.5	0.8	0.0
66°	1.5	0.8	0.0



TEST NUMBER: P1191515

CATALOG NUMBER: LDA4A15927D010TE LAR25NF 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	2.3	0.8	0.0
75°	2.3	0.8	0.0
77.5°	2.3	0.8	0.0
80°	2.3	0.8	0.0
82.5°	2.3	0.8	0.0
85°	2.3	0.8	0.0
87.5°	1.5	0.8	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°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.3	1.5
70°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	0.8	0.8

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67.5°	1.5	1.5	1.5	1.5	3.1	3.1	3.1	1.5	2.3	2.3	2.3
70°	0.8	0.8	0.8	1.5	2.3	3.1	3.1	1.5	2.3	2.3	2.3

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67.5°	1.5	0.8	0.0
70°	1.5	0.8	0.0

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(END OF REPORT)