

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: P1191875

Luminaire Tested: **LDA4A35927D010TE 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: P1191875
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: LDA4A35927D010TE 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

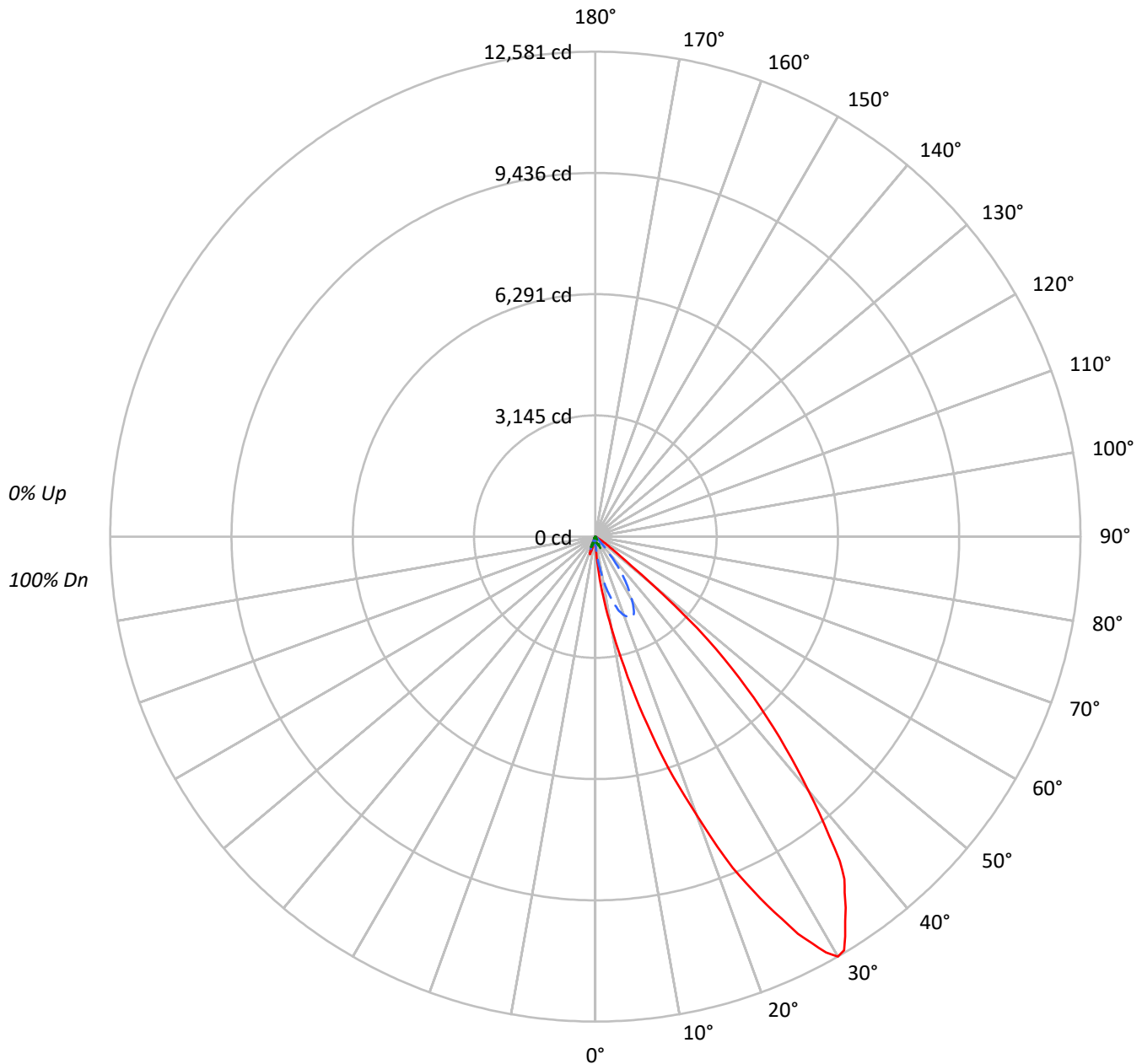
Lumens per Lamp: N/A
Luminaire Lumens: 2913.8 lumens
Efficiency: N/A
Efficacy: 61.9 lumens/watt
Spacing Criteria (0/90/45): 2.56 / 1.01 / 1.3
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 47.1
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°	23830	23830	23830
5°	103498	22460	13607
10°	298417	20228	14792
15°	611489	22321	42740
20°	1008838	41518	43277
25°	1437101	26512	14494
30°	1791835	11608	5683
35°	1697818	5270	2500
40°	1382824	2673	805
45°	968614	1448	0
50°	362963	959	0
55°	77352	1075	0
60°	14801	814	0
65°	4349	1459	0
70°	1190	1803	0
75°	0	2383	0
80°	0	3552	0
85°	0	7076	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.5	1.4
10°-20°	349.0	12.0
20°-30°	891.4	30.6
30°-40°	1032.4	35.4
40°-50°	532.6	18.3
50°-60°	55.0	1.9
60°-70°	5.9	0.2
70°-80°	3.8	0.1
80°-90°	3.4	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°	1280.8	44.0
0°-40°	2313.2	79.4
0°-60°	2900.8	99.6
0°-90°	2913.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2913.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	193	193	193	193	193	
5°	836	435	181	120	110	130
15°	4789	1753	175	233	335	1466
25°	10559	2289	195	122	106	4906
35°	11275	1252	35	20	17	6905
45°	5553	146	8	5	0	4158
55°	360	22	5	3	0	450
65°	15	5	5	3	0	20
75°	0	3	5	5	0	0
85°	0	3	5	5	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°	193.2	193.2	193.2	193.2	193.2	193.2	193.2	193.2	193.2	193.2	193.2
2.5°	333.0	321.3	313.0	316.3	334.7	314.6	316.3	309.7	306.4	303.0	294.8
5°	835.9	802.6	780.9	782.6	734.3	771.0	767.6	739.3	720.9	686.0	666.1
7.5°	1568.4	1496.8	1471.8	1463.5	1468.5	1433.6	1418.6	1382.0	1333.6	1270.4	1233.7
10°	2382.6	2339.4	2324.3	2297.6	2296.0	2234.5	2197.9	2151.2	2054.6	1966.4	1901.5
12.5°	3471.5	3338.3	3315.0	3265.1	3251.7	3146.8	3070.2	3002.0	2840.4	2723.9	2620.7
15°	4788.6	4680.3	4705.3	4552.2	4510.4	4338.9	4195.8	4049.3	3787.8	3609.7	3426.6
17.5°	6283.6	6145.5	6162.2	5970.6	5626.0	5657.7	5449.5	5248.1	4880.1	4642.0	4359.0
20°	7685.7	7587.4	7594.1	7339.2	7222.8	6906.5	6628.4	6388.7	5899.1	5596.0	5221.4
22.5°	9299.0	9044.2	8996.0	8649.7	8444.9	8020.2	7632.3	7314.4	6721.6	6380.2	5920.8
25°	10559.4	10384.6	10251.4	9841.8	9557.2	9004.3	8554.7	8083.5	7370.9	6993.0	6446.8
26°	11032.3	10867.4	10696.0	10254.7	9935.1	9350.6	8861.1	8354.9	7592.4	7187.8	6593.5
27°	11566.7	11297.1	11090.6	10596.0	10249.8	9635.4	9054.3	8576.4	7760.6	7312.7	6686.6
28°	11944.8	11675.0	11402.0	10864.1	10489.5	9846.8	9242.4	8721.3	7858.8	7372.6	6724.9
29°	12332.6	12046.3	11648.3	11062.3	10654.4	9978.4	9350.6	8792.8	7887.0	7369.2	6705.0
30°	12580.7	12292.7	11778.2	11173.8	10742.5	10031.5	9380.6	8779.6	7842.1	7302.6	6631.7
31°	12522.5	12257.8	11746.6	11185.4	10734.2	10000.1	9325.7	8684.6	7728.9	7184.5	6498.5
32°	12231.1	12006.2	11618.4	11107.2	10642.6	9891.7	9197.5	8534.9	7565.7	7046.3	6337.0
33°	11893.1	11706.7	11438.6	10949.0	10482.9	9728.7	9021.0	8350.0	7377.7	6858.1	6142.1
34°	11610.1	11441.9	11193.9	10735.9	10264.7	9510.4	8797.8	8116.8	7162.8	6636.7	5912.5
35°	11275.4	11122.1	10892.5	10447.9	9961.6	9217.5	8518.1	7847.1	6909.8	6373.6	5646.1
36°	10983.9	10742.5	10509.4	10076.6	9592.1	8862.8	8188.4	7530.8	6623.3	6072.2	5346.3
37°	10532.8	10291.3	10041.6	9632.1	9154.2	8456.5	7822.2	7192.8	6297.1	5845.9	5026.7
38°	9858.4	9746.9	9497.2	9107.5	8662.9	8008.6	7420.9	6808.2	5929.1	5408.0	4687.0
39°	9229.1	9137.5	8894.4	8538.2	8126.9	7527.5	6976.4	6375.3	5514.5	5021.6	4329.0
40°	8588.1	8496.4	8268.4	7947.0	7577.3	7026.3	6503.5	5914.1	5079.9	4623.7	3969.4
42.5°	7069.7	6974.7	6926.3	6598.4	6207.1	5734.2	5249.7	4716.9	4007.7	3633.1	3120.3
45°	5552.8	5466.1	5284.7	5149.8	4800.2	4407.2	4012.7	3578.1	3055.3	2685.7	2206.2
47.5°	3969.4	3927.7	3934.3	3684.6	3351.6	3041.9	2715.7	2322.6	1859.9	1395.3	1024.0
50°	1891.5	1903.1	1949.7	1774.9	1525.2	1343.6	1150.5	902.4	659.3	517.8	401.3
51°	1225.4	1238.7	1278.8	1153.9	972.4	849.2	725.9	586.0	467.9	398.0	318.0
52°	829.1	829.1	837.6	764.2	674.4	604.4	532.9	451.2	364.7	313.0	251.4
53°	622.7	621.0	624.3	576.1	514.5	462.9	412.9	352.9	288.0	244.7	194.8
54°	476.2	474.5	477.9	441.2	398.0	359.7	321.3	276.4	223.2	183.1	146.5
55°	359.7	359.7	364.7	336.3	303.0	273.1	244.7	206.5	164.9	133.2	106.5
57.5°	144.8	144.8	149.8	139.8	124.9	113.2	103.2	88.3	73.2	61.6	49.9
60°	60.0	61.6	63.3	58.3	55.0	51.7	48.2	43.2	38.3	31.6	26.7
61°	44.9	44.9	46.6	43.2	41.6	38.3	36.6	33.3	30.0	25.0	21.7
62°	33.3	33.3	35.0	33.3	31.6	30.0	28.3	26.7	23.4	20.0	16.6
63°	25.0	25.0	26.7	25.0	25.0	23.4	21.7	20.0	18.4	14.9	13.3
64°	20.0	20.0	20.0	18.4	18.4	18.4	16.6	16.6	13.3	11.6	9.9
65°	14.9	14.9	14.9	14.9	13.3	13.3	13.3	11.6	11.6	8.3	8.3
66°	11.6	11.6	11.6	9.9	9.9	9.9	9.9	9.9	8.3	6.6	5.0



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CATALOG NUMBER: LDA4A35927D010TE 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	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
75°	0.0	0.0	0.0	0.0	1.7	1.7	1.7	1.7	1.7	1.7	1.7
77.5°	0.0	0.0	0.0	0.0	1.7	1.7	1.7	1.7	1.7	1.7	1.7
80°	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7	1.7	1.7	1.7
82.5°	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7	1.7	1.7	1.7
85°	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7	1.7	1.7	1.7
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7	1.7	1.7
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):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	67.5°	90°	112.5°
0°	193.2	193.2	193.2	193.2	193.2	193.2	193.2	193.2	193.2	193.2	193.2
2.5°	298.1	296.4	279.7	279.7	286.3	276.4	271.4	259.8	223.2	189.9	159.9
5°	659.3	641.1	584.4	567.8	566.2	519.4	492.8	434.6	254.7	181.4	138.2
7.5°	1217.2	1162.2	1065.6	1014.0	950.7	914.1	849.2	749.3	289.8	169.8	124.9
10°	1799.9	1738.3	1595.1	1503.5	1455.3	1337.0	1228.8	1092.2	324.7	161.5	123.3
12.5°	2467.5	2329.3	2192.7	2029.7	1884.7	1779.8	1600.1	1440.2	348.0	159.9	134.9
15°	3190.2	3017.0	2783.9	2564.1	2359.3	2209.5	1968.1	1753.2	356.2	174.8	176.5
17.5°	3999.3	3674.7	3338.3	3038.6	2757.2	2555.8	2256.0	2003.0	351.3	214.7	281.3
20°	4757.0	4325.7	3869.5	3453.2	3055.3	2793.9	2447.6	2172.9	352.9	316.3	379.6
22.5°	5357.9	4833.5	4277.4	3769.6	3265.1	2952.1	2574.2	2262.7	396.3	338.0	258.1
25°	5800.8	5183.1	4545.4	3961.0	3429.9	3078.5	2664.0	2289.3	369.7	194.8	146.5
26°	5919.1	5268.1	4595.4	3989.3	3449.8	3078.5	2650.7	2261.0	319.6	154.9	121.6
27°	5985.7	5306.4	4603.7	3976.1	3425.0	3043.6	2602.3	2204.5	261.5	129.9	103.2
28°	5994.0	5289.7	4562.1	3921.1	3354.9	2968.7	2515.8	2117.9	216.4	109.9	84.8
29°	5949.1	5228.0	4482.2	3829.4	3248.4	2858.8	2397.5	2011.3	184.8	94.9	71.6
30°	5854.2	5119.8	4360.6	3706.3	3110.2	2725.6	2259.4	1893.2	161.5	81.5	60.0
31°	5717.6	4971.7	4229.1	3559.7	2965.4	2592.4	2129.6	1773.2	143.2	68.3	49.9
32°	5541.2	4796.9	4059.2	3401.6	2835.5	2465.8	2004.7	1651.6	128.2	58.3	41.6
33°	5344.7	4598.7	3874.5	3236.8	2710.7	2336.1	1873.1	1523.5	114.8	48.2	35.0
34°	5118.2	4380.7	3678.0	3071.9	2577.5	2192.7	1731.6	1392.0	99.9	39.9	30.0
35°	4860.2	4137.5	3466.6	2922.1	2429.2	2038.0	1583.3	1252.1	88.3	35.0	25.0
36°	4580.3	3884.4	3253.3	2750.6	2269.5	1876.4	1426.9	1110.6	76.6	30.0	21.7
37°	4287.4	3621.3	3040.3	2555.8	2092.8	1705.0	1265.4	957.4	66.6	25.0	18.4
38°	3977.7	3356.7	2833.8	2371.0	1906.4	1520.2	1100.5	789.2	58.3	21.7	16.6
39°	3661.3	3095.3	2629.0	2167.9	1714.9	1338.6	942.4	612.7	51.7	18.4	14.9
40°	3351.6	2848.9	2412.6	1946.4	1523.5	1160.5	789.2	451.2	44.9	16.6	11.6
42.5°	2654.0	2187.8	1731.6	1298.7	1062.2	736.0	437.9	236.4	31.6	11.6	8.3
45°	1736.6	1293.7	934.0	632.8	549.4	311.3	203.1	146.5	23.4	8.3	6.6
47.5°	719.3	524.4	364.7	263.1	213.1	166.5	129.9	94.9	16.6	6.6	6.6
50°	316.3	249.7	198.2	154.9	134.9	108.2	83.2	58.3	9.9	5.0	5.0
51°	253.0	201.5	154.9	123.3	109.9	88.3	68.3	46.6	9.9	5.0	5.0
52°	199.8	156.6	121.6	94.9	88.3	71.6	56.7	38.3	8.3	5.0	5.0
53°	153.1	118.1	91.6	74.9	69.9	58.3	46.6	31.6	6.6	5.0	5.0
54°	113.2	90.0	71.6	58.3	56.7	46.6	38.3	26.7	6.6	5.0	5.0
55°	83.2	69.9	55.0	46.6	44.9	38.3	31.6	21.7	6.6	5.0	5.0
57.5°	43.2	36.6	30.0	26.7	26.7	25.0	21.7	13.3	5.0	3.3	5.0
60°	23.4	20.0	16.6	14.9	18.4	16.6	14.9	8.3	5.0	3.3	5.0
61°	18.4	16.6	13.3	11.6	14.9	13.3	13.3	6.6	5.0	5.0	5.0
62°	14.9	13.3	11.6	9.9	13.3	11.6	11.6	6.6	5.0	5.0	5.0
63°	11.6	9.9	8.3	8.3	11.6	11.6	9.9	5.0	5.0	5.0	5.0
64°	8.3	8.3	6.6	6.6	9.9	9.9	8.3	5.0	5.0	5.0	5.0
65°	6.6	6.6	5.0	5.0	8.3	8.3	8.3	5.0	5.0	5.0	5.0
66°	5.0	5.0	5.0	3.3	6.6	8.3	8.3	3.3	5.0	5.0	5.0



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CANDELA DISTRIBUTION (continued):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	67.5°	90°	112.5°
72.5°	1.7	1.7	1.7	1.7	5.0	6.6	6.6	3.3	5.0	5.0	5.0
75°	1.7	1.7	1.7	1.7	5.0	6.6	6.6	3.3	5.0	5.0	5.0
77.5°	1.7	1.7	1.7	1.7	5.0	6.6	6.6	3.3	5.0	5.0	6.6
80°	1.7	1.7	1.7	1.7	5.0	6.6	6.6	3.3	5.0	5.0	6.6
82.5°	1.7	1.7	1.7	1.7	5.0	6.6	6.6	3.3	5.0	5.0	6.6
85°	1.7	1.7	1.7	1.7	5.0	6.6	6.6	3.3	5.0	5.0	6.6
87.5°	1.7	1.7	1.7	1.7	5.0	6.6	6.6	3.3	5.0	5.0	6.6
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: P1191875

CATALOG NUMBER: LDA4A35927D010TE LAR25NF 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
0°	193.2	193.2	193.2
2.5°	144.8	136.5	134.9
5°	120.0	111.5	109.9
7.5°	109.9	103.2	101.6
10°	113.2	114.8	118.1
12.5°	144.8	159.9	173.1
15°	233.1	293.1	334.7
17.5°	406.3	449.5	477.9
20°	356.2	328.1	329.7
22.5°	199.8	179.8	178.1
25°	121.6	109.9	106.5
26°	101.6	91.6	88.3
27°	83.2	74.9	71.6
28°	68.3	61.6	60.0
29°	58.3	49.9	48.2
30°	48.2	41.6	39.9
31°	39.9	35.0	33.3
32°	35.0	30.0	26.7
33°	28.3	25.0	23.4
34°	25.0	20.0	18.4
35°	20.0	16.6	16.6
36°	18.4	14.9	13.3
37°	14.9	11.6	11.6
38°	13.3	9.9	8.3
39°	11.6	8.3	6.6
40°	9.9	6.6	5.0
42.5°	6.6	3.3	1.7
45°	5.0	1.7	0.0
47.5°	3.3	1.7	0.0
50°	3.3	0.0	0.0
51°	3.3	0.0	0.0
52°	3.3	0.0	0.0
53°	3.3	0.0	0.0
54°	3.3	0.0	0.0
55°	3.3	0.0	0.0
57.5°	3.3	0.0	0.0
60°	3.3	0.0	0.0
61°	3.3	0.0	0.0
62°	3.3	0.0	0.0
63°	3.3	1.7	0.0
64°	3.3	1.7	0.0
65°	3.3	1.7	0.0
66°	3.3	1.7	0.0



TEST NUMBER: P1191875

CATALOG NUMBER: LDA4A35927D010TE LAR25NF 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	5.0	1.7	0.0
75°	5.0	1.7	0.0
77.5°	5.0	1.7	0.0
80°	5.0	1.7	0.0
82.5°	5.0	1.7	0.0
85°	5.0	1.7	0.0
87.5°	3.3	1.7	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°	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	5.0	3.3
70°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	1.7	1.7

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67.5°	3.3	3.3	3.3	3.3	6.6	6.6	6.6	3.3	5.0	5.0	5.0
70°	1.7	1.7	1.7	3.3	5.0	6.6	6.6	3.3	5.0	5.0	5.0

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67.5°	3.3	1.7	0.0
70°	3.3	1.7	0.0

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(END OF REPORT)