

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: P1191749

Luminaire Tested: **LDA4A25940D010TE 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: P1191749
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: LDA4A25940D010TE 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 / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

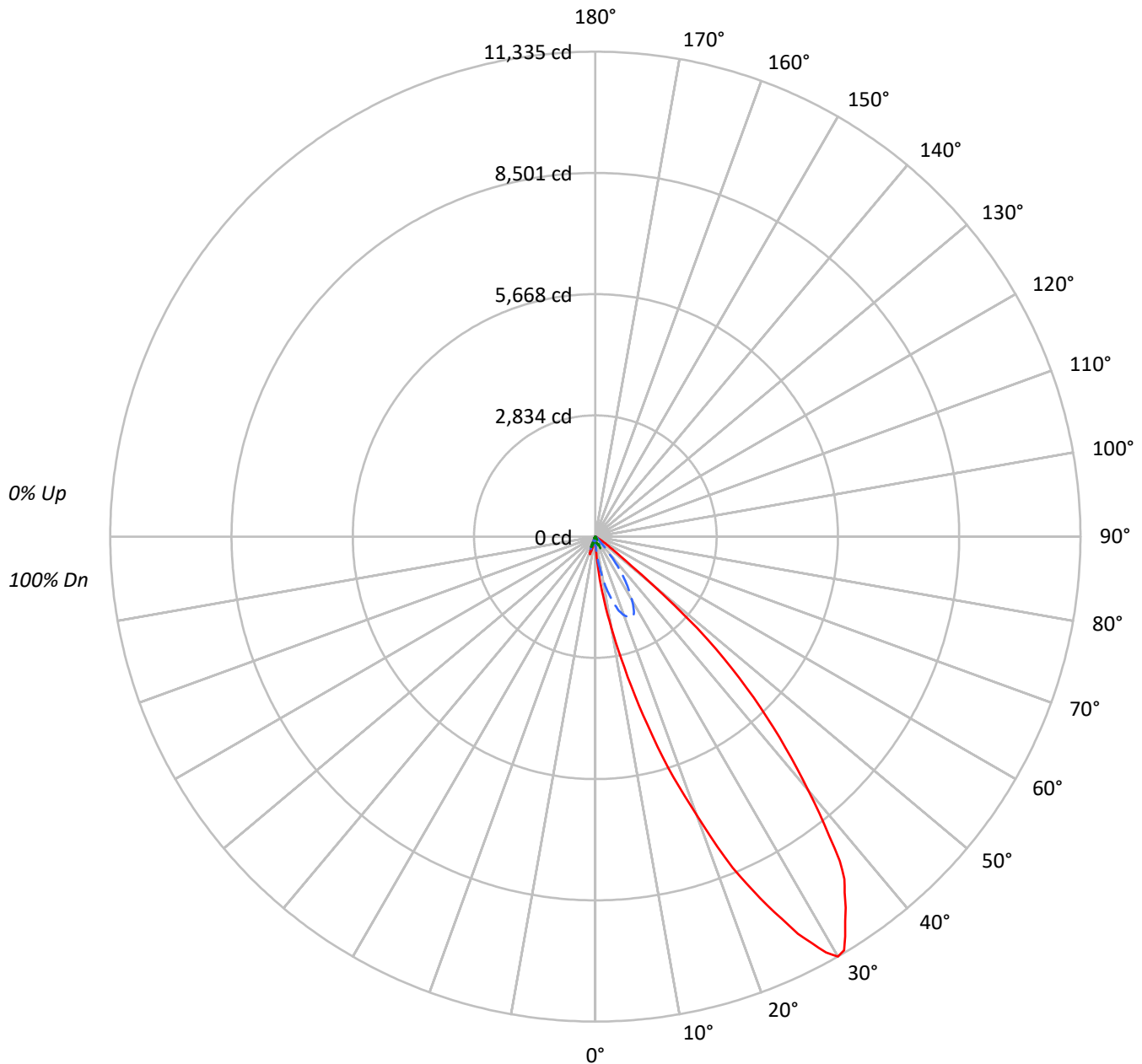
Lumens per Lamp: N/A
Luminaire Lumens: 2625.3 lumens
Efficiency: N/A
Efficacy: 85.0 lumens/watt
Spacing Criteria (0/90/45): 2.56 / 1.01 / 1.3
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 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

TEST NUMBER: P1191749

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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°	21474	21474	21474
5°	93246	20244	12270
10°	268858	18224	13339
15°	550922	20112	38501
20°	908908	37410	38998
25°	1294771	23885	13065
30°	1614370	10468	5127
35°	1529669	4743	2259
40°	1245863	2415	725
45°	872674	1308	0
50°	327003	864	0
55°	69697	968	0
60°	13321	740	0
65°	3940	1313	0
70°	1082	1623	0
75°	0	2145	0
80°	0	3196	0
85°	0	6369	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	36.5	1.4
10°-20°	314.4	12.0
20°-30°	803.1	30.6
30°-40°	930.1	35.4
40°-50°	479.9	18.3
50°-60°	49.5	1.9
60°-70°	5.3	0.2
70°-80°	3.4	0.1
80°-90°	3.1	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°	1154.0	44.0
0°-40°	2084.1	79.4
0°-60°	2613.5	99.6
0°-90°	2625.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2625.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	174	174	174	174	174	
5°	753	392	164	108	99	117
15°	4314	1580	158	210	302	1321
25°	9514	2063	176	110	96	4420
35°	10159	1128	32	18	15	6221
45°	5003	132	8	4	0	3746
55°	324	20	4	3	0	406
65°	14	4	4	3	0	18
75°	0	3	4	4	0	0
85°	0	3	4	4	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°	174.1	174.1	174.1	174.1	174.1	174.1	174.1	174.1	174.1	174.1	174.1
2.5°	300.0	289.6	282.0	285.0	301.5	283.6	285.0	279.0	276.1	273.0	265.5
5°	753.1	723.0	703.5	705.0	661.5	694.6	691.5	666.1	649.5	618.1	600.0
7.5°	1413.1	1348.6	1326.1	1318.5	1323.1	1291.6	1278.1	1245.1	1201.5	1144.6	1111.6
10°	2146.6	2107.6	2094.1	2070.2	2068.7	2013.1	1980.2	1938.1	1851.2	1771.6	1713.1
12.5°	3127.7	3007.7	2986.7	2941.7	2929.7	2835.2	2766.2	2704.7	2559.2	2454.1	2361.2
15°	4314.3	4216.8	4239.3	4101.3	4063.7	3909.3	3780.3	3648.2	3412.7	3252.2	3087.2
17.5°	5661.4	5536.9	5551.9	5379.3	5068.8	5097.3	4909.9	4728.3	4396.8	4182.3	3927.2
20°	6924.4	6835.9	6841.9	6612.4	6507.4	6222.4	5971.8	5755.9	5314.8	5041.8	4704.3
22.5°	8378.1	8148.5	8105.1	7793.0	7608.5	7225.9	6876.4	6589.9	6055.9	5748.4	5334.4
25°	9513.6	9356.1	9236.0	8867.0	8610.6	8112.6	7707.5	7283.0	6641.0	6300.4	5808.3
26°	9939.7	9791.1	9636.6	9239.1	8951.1	8424.5	7983.6	7527.5	6840.5	6475.9	5940.4
27°	10421.1	10178.2	9992.1	9546.6	9234.6	8681.1	8157.5	7727.0	6991.9	6588.4	6024.4
28°	10761.7	10518.7	10272.7	9788.2	9450.6	8871.6	8327.0	7857.5	7080.4	6642.4	6058.9
29°	11111.3	10853.2	10494.7	9966.7	9599.1	8990.0	8424.5	7922.0	7106.0	6639.4	6040.9
30°	11334.7	11075.2	10611.6	10067.1	9678.6	9038.0	8451.5	7910.0	7065.5	6579.5	5974.9
31°	11282.3	11043.7	10583.2	10077.7	9671.1	9009.6	8402.0	7824.5	6963.5	6472.9	5854.9
32°	11019.7	10817.1	10467.7	10007.2	9588.6	8912.1	8286.5	7689.4	6816.4	6348.4	5709.4
33°	10715.2	10547.2	10305.6	9864.7	9444.6	8765.0	8127.5	7523.0	6647.0	6178.9	5533.8
34°	10460.2	10308.7	10085.1	9672.7	9248.1	8568.6	7926.5	7312.9	6453.4	5979.4	5326.9
35°	10158.7	10020.7	9813.6	9413.1	8975.1	8304.6	7674.5	7070.0	6225.4	5742.4	5086.9
36°	9896.1	9678.6	9468.7	9078.6	8642.0	7985.0	7377.5	6785.0	5967.4	5470.9	4816.8
37°	9489.6	9272.1	9047.1	8678.1	8247.5	7619.0	7047.4	6480.4	5673.4	5266.8	4528.8
38°	8882.1	8781.6	8556.6	8205.5	7805.0	7215.5	6685.9	6133.9	5341.8	4872.3	4222.8
39°	8315.0	8232.5	8013.5	7692.5	7322.0	6781.9	6285.4	5743.9	4968.3	4524.3	3900.2
40°	7737.5	7655.0	7449.5	7160.0	6826.9	6330.4	5859.4	5328.3	4576.8	4165.7	3576.2
42.5°	6369.4	6283.9	6240.4	5944.8	5592.4	5166.3	4729.8	4249.8	3610.7	3273.2	2811.2
45°	5002.8	4924.8	4761.3	4639.8	4324.8	3970.8	3615.3	3223.7	2752.7	2419.6	1987.7
47.5°	3576.2	3538.7	3544.7	3319.7	3019.7	2740.7	2446.7	2092.6	1675.6	1257.0	922.5
50°	1704.1	1714.6	1756.6	1599.1	1374.1	1210.6	1036.6	813.0	594.0	466.5	361.5
51°	1104.1	1116.1	1152.1	1039.6	876.1	765.0	654.0	528.1	421.5	358.6	286.5
52°	747.1	747.1	754.6	688.5	607.5	544.5	480.0	406.6	328.5	282.0	226.5
53°	561.0	559.5	562.6	519.0	463.5	417.0	372.1	318.1	259.5	220.5	175.5
54°	429.0	427.6	430.5	397.5	358.6	324.1	289.6	249.1	201.1	165.0	132.0
55°	324.1	324.1	328.5	303.0	273.0	246.0	220.5	186.0	148.5	120.0	96.0
57.5°	130.5	130.5	135.0	126.1	112.6	102.0	93.0	79.5	66.0	55.5	45.0
60°	54.0	55.5	57.0	52.5	49.5	46.5	43.5	39.0	34.5	28.5	23.9
61°	40.5	40.5	42.0	39.0	37.6	34.5	33.0	30.0	27.0	22.5	19.5
62°	30.0	30.0	31.5	30.0	28.5	27.0	25.5	23.9	21.0	18.0	15.0
63°	22.5	22.5	23.9	22.5	22.5	21.0	19.5	18.0	16.5	13.5	12.0
64°	18.0	18.0	18.0	16.5	16.5	16.5	15.0	15.0	12.0	10.4	9.0
65°	13.5	13.5	13.5	13.5	12.0	12.0	12.0	10.4	10.4	7.5	7.5
66°	10.4	10.4	10.4	9.0	9.0	9.0	9.0	9.0	7.5	6.0	4.5



TEST NUMBER: P1191749

CATALOG NUMBER: LDA4A25940D010TE 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	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
75°	0.0	0.0	0.0	0.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5
77.5°	0.0	0.0	0.0	0.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5
80°	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5	1.5	1.5	1.5
82.5°	0.0	0.0	0.0	0.0	0.0	1.5	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°	174.1	174.1	174.1	174.1	174.1	174.1	174.1	174.1	174.1	174.1	174.1
2.5°	268.5	267.0	252.0	252.0	258.0	249.1	244.5	234.0	201.1	171.0	144.0
5°	594.0	577.6	526.5	511.5	510.0	468.1	444.0	391.5	229.5	163.5	124.5
7.5°	1096.6	1047.1	960.1	913.6	856.6	823.6	765.0	675.0	261.0	153.0	112.6
10°	1621.6	1566.1	1437.1	1354.6	1311.0	1204.6	1107.0	984.0	292.5	145.5	111.0
12.5°	2223.1	2098.6	1975.6	1828.6	1698.1	1603.6	1441.6	1297.5	313.5	144.0	121.5
15°	2874.2	2718.2	2508.2	2310.1	2125.6	1990.6	1773.1	1579.6	321.0	157.5	159.0
17.5°	3603.3	3310.7	3007.7	2737.7	2484.2	2302.7	2032.6	1804.6	316.5	193.5	253.5
20°	4285.8	3897.3	3486.3	3111.2	2752.7	2517.1	2205.2	1957.6	318.1	285.0	342.0
22.5°	4827.3	4354.8	3853.8	3396.2	2941.7	2659.6	2319.1	2038.6	357.0	304.6	232.5
25°	5226.3	4669.8	4095.3	3568.8	3090.1	2773.7	2400.1	2062.7	333.0	175.5	132.0
26°	5332.9	4746.4	4140.3	3594.3	3108.2	2773.7	2388.1	2037.1	288.0	139.6	109.5
27°	5392.8	4780.8	4147.8	3582.3	3085.7	2742.1	2344.6	1986.2	235.6	117.0	93.0
28°	5400.4	4765.8	4110.2	3532.7	3022.7	2674.7	2266.7	1908.1	195.1	99.1	76.5
29°	5359.9	4710.3	4038.3	3450.2	2926.6	2575.7	2160.1	1812.1	166.5	85.6	64.6
30°	5274.3	4612.8	3928.8	3339.2	2802.2	2455.6	2035.7	1705.6	145.5	73.5	54.0
31°	5151.3	4479.3	3810.2	3207.2	2671.7	2335.7	1918.7	1597.7	129.0	61.5	45.0
32°	4992.4	4321.8	3657.3	3064.7	2554.7	2221.6	1806.1	1488.1	115.5	52.5	37.6
33°	4815.3	4143.3	3490.7	2916.2	2442.1	2104.6	1687.6	1372.5	103.5	43.5	31.5
34°	4611.3	3946.7	3313.7	2767.7	2322.2	1975.6	1560.1	1254.1	90.0	36.0	27.0
35°	4378.8	3727.7	3123.2	2632.6	2188.6	1836.1	1426.6	1128.1	79.5	31.5	22.5
36°	4126.8	3499.8	2931.2	2478.2	2044.6	1690.6	1285.6	1000.6	69.0	27.0	19.5
37°	3862.8	3262.7	2739.2	2302.7	1885.6	1536.1	1140.0	862.6	60.0	22.5	16.5
38°	3583.7	3024.2	2553.2	2136.2	1717.6	1369.6	991.6	711.0	52.5	19.5	15.0
39°	3298.7	2788.7	2368.7	1953.2	1545.1	1206.1	849.1	552.0	46.5	16.5	13.5
40°	3019.7	2566.7	2173.6	1753.6	1372.5	1045.5	711.0	406.6	40.5	15.0	10.4
42.5°	2391.2	1971.1	1560.1	1170.1	957.0	663.0	394.5	213.0	28.5	10.4	7.5
45°	1564.6	1165.6	841.6	570.1	495.1	280.5	183.0	132.0	21.0	7.5	6.0
47.5°	648.0	472.5	328.5	237.0	192.0	150.0	117.0	85.6	15.0	6.0	6.0
50°	285.0	225.0	178.5	139.6	121.5	97.5	75.0	52.5	9.0	4.5	4.5
51°	228.0	181.5	139.6	111.0	99.1	79.5	61.5	42.0	9.0	4.5	4.5
52°	180.0	141.0	109.5	85.6	79.5	64.6	51.1	34.5	7.5	4.5	4.5
53°	138.0	106.5	82.5	67.5	63.0	52.5	42.0	28.5	6.0	4.5	4.5
54°	102.0	81.0	64.6	52.5	51.1	42.0	34.5	23.9	6.0	4.5	4.5
55°	75.0	63.0	49.5	42.0	40.5	34.5	28.5	19.5	6.0	4.5	4.5
57.5°	39.0	33.0	27.0	23.9	23.9	22.5	19.5	12.0	4.5	3.0	4.5
60°	21.0	18.0	15.0	13.5	16.5	15.0	13.5	7.5	4.5	3.0	4.5
61°	16.5	15.0	12.0	10.4	13.5	12.0	12.0	6.0	4.5	4.5	4.5
62°	13.5	12.0	10.4	9.0	12.0	10.4	10.4	6.0	4.5	4.5	4.5
63°	10.4	9.0	7.5	7.5	10.4	10.4	9.0	4.5	4.5	4.5	4.5
64°	7.5	7.5	6.0	6.0	9.0	9.0	7.5	4.5	4.5	4.5	4.5
65°	6.0	6.0	4.5	4.5	7.5	7.5	7.5	4.5	4.5	4.5	4.5
66°	4.5	4.5	4.5	3.0	6.0	7.5	7.5	3.0	4.5	4.5	4.5



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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°	1.5	1.5	1.5	1.5	4.5	6.0	6.0	3.0	4.5	4.5	4.5
75°	1.5	1.5	1.5	1.5	4.5	6.0	6.0	3.0	4.5	4.5	4.5
77.5°	1.5	1.5	1.5	1.5	4.5	6.0	6.0	3.0	4.5	4.5	6.0
80°	1.5	1.5	1.5	1.5	4.5	6.0	6.0	3.0	4.5	4.5	6.0
82.5°	1.5	1.5	1.5	1.5	4.5	6.0	6.0	3.0	4.5	4.5	6.0
85°	1.5	1.5	1.5	1.5	4.5	6.0	6.0	3.0	4.5	4.5	6.0
87.5°	1.5	1.5	1.5	1.5	4.5	6.0	6.0	3.0	4.5	4.5	6.0
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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CATALOG NUMBER: LDA4A25940D010TE LAR25NF 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
0°	174.1	174.1	174.1
2.5°	130.5	123.0	121.5
5°	108.0	100.5	99.1
7.5°	99.1	93.0	91.5
10°	102.0	103.5	106.5
12.5°	130.5	144.0	156.0
15°	210.0	264.0	301.5
17.5°	366.1	405.0	430.5
20°	321.0	295.5	297.1
22.5°	180.0	162.0	160.6
25°	109.5	99.1	96.0
26°	91.5	82.5	79.5
27°	75.0	67.5	64.6
28°	61.5	55.5	54.0
29°	52.5	45.0	43.5
30°	43.5	37.6	36.0
31°	36.0	31.5	30.0
32°	31.5	27.0	23.9
33°	25.5	22.5	21.0
34°	22.5	18.0	16.5
35°	18.0	15.0	15.0
36°	16.5	13.5	12.0
37°	13.5	10.4	10.4
38°	12.0	9.0	7.5
39°	10.4	7.5	6.0
40°	9.0	6.0	4.5
42.5°	6.0	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°	3.0	0.0	0.0
54°	3.0	0.0	0.0
55°	3.0	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	1.5	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: P1191749

CATALOG NUMBER: LDA4A25940D010TE LAR25NF 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	4.5	1.5	0.0
75°	4.5	1.5	0.0
77.5°	4.5	1.5	0.0
80°	4.5	1.5	0.0
82.5°	4.5	1.5	0.0
85°	4.5	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°	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	4.5	3.0
70°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	1.5	1.5

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