

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: P1191911

Luminaire Tested: **LDA4A35935D010TE LAR25NF 4LA1 30° Tilt**

Issue Date: 3/3/2020



Test Information

Test Method: LM-41-14
Report Number: P1191911
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: LDA4A35935D010TE 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

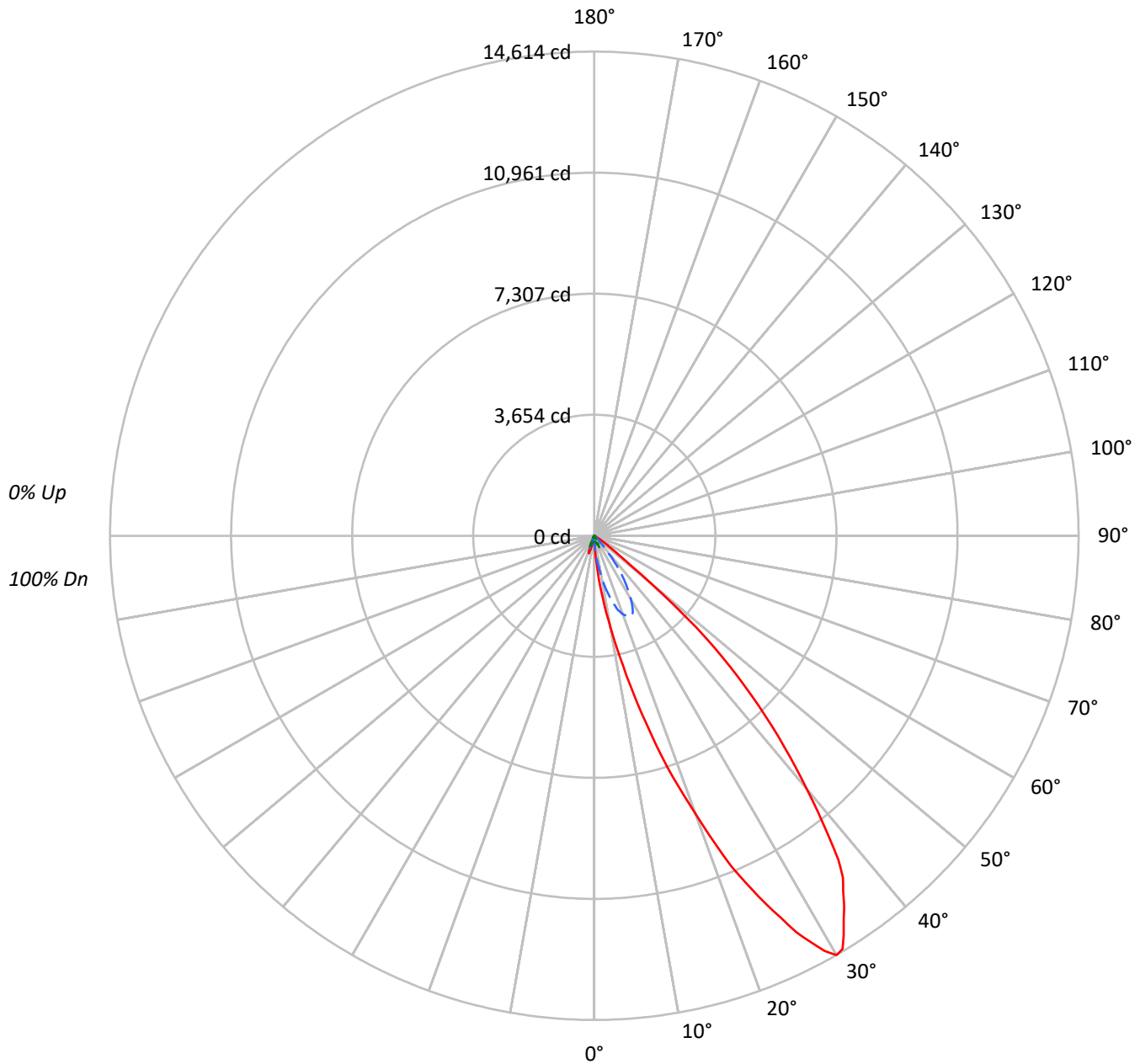
Lumens per Lamp: N/A
Luminaire Lumens: 3385.1 lumens
Efficiency: N/A
Efficacy: 71.9 lumens/watt
Spacing Criteria (0/90/45): 2.56 / 1.01 / 1.3
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



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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	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	112	109	106	104	110	107	104	102	103	101	99	99	97	96	96	94	93	91		
2	105	100	95	91	103	98	93	90	95	91	88	91	88	86	89	86	84	82		
3	99	91	85	80	96	89	84	79	87	82	78	84	80	77	82	78	76	74		
4	92	83	76	71	90	82	75	71	79	74	70	77	73	69	75	71	68	66		
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61	60		
6	80	69	62	57	78	68	61	56	67	61	56	65	60	56	64	59	55	53		
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	48		
8	70	58	51	46	68	57	51	46	56	50	46	55	49	45	54	49	45	43		
9	65	53	46	41	64	53	46	41	52	46	41	51	45	41	50	45	41	39		
10	61	49	42	38	60	49	42	37	48	42	37	47	41	37	46	41	37	36		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	27679	27679	27679
5°	120214	26101	15799
10°	346663	23497	17197
15°	710326	25935	49649
20°	1171904	48239	50260
25°	1669405	30799	16835
30°	2081475	13502	6609
35°	1972260	6128	2906
40°	1606331	3108	950
45°	1125171	1675	0
50°	421605	1132	0
55°	89825	1269	0
60°	17170	962	0
65°	5108	1722	0
70°	1406	2128	0
75°	0	2812	0
80°	0	4191	0
85°	0	8350	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.0	1.4
10°-20°	405.4	12.0
20°-30°	1035.5	30.6
30°-40°	1199.2	35.4
40°-50°	618.7	18.3
50°-60°	63.9	1.9
60°-70°	6.9	0.2
70°-80°	4.4	0.1
80°-90°	4.0	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°	1487.9	44.0
0°-40°	2687.1	79.4
0°-60°	3369.7	99.5
0°-90°	3385.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3385.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	224	224	224	224	224	
5°	971	505	211	139	128	151
15°	5563	2037	203	271	389	1703
25°	12266	2659	226	141	124	5699
35°	13098	1454	41	23	19	8021
45°	6450	170	10	6	0	4830
55°	418	25	6	4	0	523
65°	18	6	6	4	0	23
75°	0	4	6	6	0	1
85°	0	4	6	6	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°	224.4	224.4	224.4	224.4	224.4	224.4	224.4	224.4	224.4	224.4	224.4
2.5°	386.8	373.3	363.6	367.5	388.8	365.6	367.5	359.7	355.9	352.0	342.4
5°	970.9	932.2	907.2	909.0	852.9	895.6	891.7	858.8	837.4	796.9	773.7
7.5°	1821.9	1738.9	1709.8	1700.1	1705.9	1665.3	1647.8	1605.3	1549.3	1475.7	1433.3
10°	2767.8	2717.5	2700.0	2669.1	2667.1	2595.6	2553.1	2499.0	2386.7	2284.2	2208.7
12.5°	4032.7	3878.0	3850.8	3792.8	3777.3	3655.5	3566.5	3487.2	3299.6	3164.3	3044.3
15°	5562.6	5436.9	5465.8	5287.9	5239.6	5040.4	4874.0	4703.8	4400.1	4193.2	3980.4
17.5°	7299.5	7138.8	7158.3	6935.8	6535.4	6572.2	6330.4	6096.3	5669.0	5392.4	5063.6
20°	8928.0	8813.8	8821.6	8525.7	8390.3	8022.8	7699.9	7421.2	6852.7	6500.6	6065.4
22.5°	10802.2	10506.2	10450.2	10047.8	9809.9	9316.7	8866.1	8496.7	7808.1	7411.6	6877.8
25°	12266.3	12063.2	11908.4	11432.7	11101.9	10459.8	9937.5	9390.2	8562.4	8123.3	7489.0
26°	12815.6	12624.1	12424.9	11912.4	11541.1	10862.2	10293.5	9705.4	8819.7	8349.7	7659.2
27°	13436.5	13123.0	12883.3	12308.8	11906.5	11192.8	10517.8	9962.7	9015.0	8494.8	7767.5
28°	13875.5	13562.2	13244.9	12620.2	12185.1	11438.4	10736.3	10131.0	9129.2	8564.4	7812.0
29°	14326.2	13993.4	13531.3	12850.4	12376.5	11591.2	10862.2	10214.2	9162.0	8560.5	7788.8
30°	14614.3	14279.8	13682.1	12980.0	12479.0	11653.2	10897.0	10198.7	9109.8	8483.2	7703.6
31°	14546.6	14239.1	13645.3	12993.6	12469.3	11616.4	10833.1	10088.5	8978.2	8345.7	7548.9
32°	14208.2	13947.0	13496.5	12902.6	12362.9	11490.7	10684.2	9914.3	8788.8	8185.2	7361.3
33°	13815.5	13598.9	13287.4	12718.9	12177.3	11301.1	10479.1	9699.7	8570.1	7966.7	7135.1
34°	13486.7	13291.4	13003.2	12471.3	11924.0	11047.8	10219.9	9428.9	8320.7	7709.5	6868.2
35°	13098.0	12920.1	12653.2	12136.7	11571.9	10707.4	9895.0	9115.6	8026.7	7403.9	6558.7
36°	12759.6	12479.0	12208.3	11705.5	11142.6	10295.4	9512.1	8748.1	7694.0	7053.8	6210.6
37°	12235.3	11954.9	11664.8	11189.0	10633.9	9823.4	9086.5	8355.5	7314.8	6790.7	5839.1
38°	11452.0	11322.4	11032.3	10579.8	10063.3	9303.2	8620.5	7908.7	6887.5	6282.1	5444.6
39°	10721.0	10614.6	10332.2	9918.2	9440.5	8744.2	8104.0	7405.9	6405.9	5833.4	5028.8
40°	9976.2	9869.9	9604.9	9231.7	8802.2	8162.0	7554.7	6870.0	5901.0	5371.0	4610.9
42.5°	8212.4	8102.1	8046.0	7665.1	7210.4	6661.1	6098.3	5479.4	4655.4	4220.3	3624.6
45°	6450.3	6349.8	6139.0	5982.3	5576.1	5119.7	4661.3	4156.4	3549.1	3119.8	2562.7
47.5°	4610.9	4562.6	4570.4	4280.3	3893.5	3533.6	3154.6	2698.2	2160.5	1620.9	1189.4
50°	2197.1	2210.7	2264.9	2061.8	1771.7	1560.9	1336.5	1048.2	766.0	601.6	466.1
51°	1423.5	1439.0	1485.4	1340.4	1129.6	986.4	843.3	680.8	543.6	462.3	369.4
52°	963.2	963.2	972.9	887.7	783.3	702.1	618.9	524.1	423.6	363.6	292.0
53°	723.3	721.4	725.3	669.2	597.7	537.7	479.7	410.0	334.5	284.4	226.3
54°	553.2	551.2	555.2	512.5	462.3	417.7	373.3	321.1	259.2	212.8	170.1
55°	417.7	417.7	423.6	390.7	352.0	317.2	284.4	239.9	191.5	154.8	123.7
57.5°	168.3	168.3	174.1	162.4	145.1	131.6	120.0	102.5	85.1	71.6	58.0
60°	69.6	71.6	73.5	67.7	63.9	60.0	56.1	50.3	44.5	36.8	30.9
61°	52.3	52.3	54.1	50.3	48.4	44.5	42.5	38.7	34.8	29.1	25.2
62°	38.7	38.7	40.7	38.7	36.8	34.8	32.9	30.9	27.1	23.2	19.3
63°	29.1	29.1	30.9	29.1	29.1	27.1	25.2	23.2	21.2	17.5	15.5
64°	23.2	23.2	23.2	21.2	21.2	21.2	19.3	19.3	15.5	13.6	11.6
65°	17.5	17.5	17.5	17.5	15.5	15.5	15.5	13.6	13.6	9.6	9.6
66°	13.6	13.6	13.6	11.6	11.6	11.6	11.6	11.6	9.6	7.7	5.9



TEST NUMBER: P1191911

CATALOG NUMBER: LDA4A35935D010TE 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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
75°	0.0	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
77.5°	0.0	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
80°	0.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0
82.5°	0.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0
85°	0.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0
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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CANDELA DISTRIBUTION (continued):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	67.5°	90°	112.5°
0°	224.4	224.4	224.4	224.4	224.4	224.4	224.4	224.4	224.4	224.4	224.4
2.5°	346.1	344.3	324.9	324.9	332.7	321.1	315.3	301.7	259.2	220.5	185.7
5°	766.0	744.6	678.9	659.6	657.6	603.4	572.5	504.8	296.0	210.8	160.5
7.5°	1413.8	1350.1	1237.8	1177.8	1104.4	1061.8	986.4	870.4	336.5	197.3	145.1
10°	2090.7	2019.3	1852.9	1746.5	1690.5	1553.1	1427.4	1268.8	377.2	187.6	143.2
12.5°	2866.4	2705.9	2547.2	2357.8	2189.4	2067.5	1858.7	1673.0	404.2	185.7	156.7
15°	3705.9	3504.7	3233.9	2978.6	2740.7	2566.6	2286.2	2036.6	414.0	203.1	204.9
17.5°	4645.7	4268.7	3878.0	3529.9	3203.0	2968.8	2620.7	2326.7	408.1	249.5	326.9
20°	5525.8	5024.9	4494.9	4011.3	3549.1	3245.5	2843.1	2524.0	410.0	367.5	440.9
22.5°	6224.1	5614.9	4968.8	4378.9	3792.8	3429.2	2990.2	2628.6	460.4	392.6	299.7
25°	6738.6	6021.0	5280.2	4601.3	3984.3	3576.3	3094.7	2659.4	429.3	226.3	170.1
26°	6875.9	6119.5	5338.2	4634.1	4007.6	3576.3	3079.1	2626.6	371.3	179.9	141.2
27°	6953.2	6164.1	5347.8	4618.8	3978.5	3535.6	3023.1	2560.7	303.6	150.8	120.0
28°	6962.8	6144.7	5299.5	4554.9	3897.2	3448.6	2922.4	2460.2	251.5	127.6	98.7
29°	6910.7	6073.1	5206.6	4448.5	3773.5	3320.8	2785.1	2336.5	214.7	110.3	83.2
30°	6800.4	5947.4	5065.4	4305.3	3613.0	3166.2	2624.6	2199.1	187.6	94.8	69.6
31°	6641.8	5775.3	4912.8	4135.2	3444.7	3011.5	2473.8	2059.8	166.4	79.3	58.0
32°	6436.7	5572.2	4715.4	3951.5	3293.9	2864.4	2328.7	1918.6	148.9	67.7	48.4
33°	6208.6	5342.1	4500.8	3760.0	3148.8	2713.5	2175.9	1769.8	133.5	56.1	40.7
34°	5945.5	5088.6	4272.5	3568.4	2994.0	2547.2	2011.5	1616.9	116.0	46.4	34.8
35°	5645.8	4806.4	4026.8	3394.4	2821.9	2367.4	1839.4	1454.5	102.5	40.7	29.1
36°	5320.9	4512.4	3779.3	3195.2	2636.2	2179.8	1657.5	1290.1	88.9	34.8	25.2
37°	4980.4	4206.8	3531.7	2968.8	2431.1	1980.6	1469.9	1112.1	77.3	29.1	21.2
38°	4620.6	3899.2	3291.9	2754.2	2214.6	1765.8	1278.5	916.8	67.7	25.2	19.3
39°	4253.2	3595.6	3054.0	2518.2	1992.2	1555.0	1094.8	711.7	60.0	21.2	17.5
40°	3893.5	3309.2	2802.6	2261.0	1769.8	1348.1	916.8	524.1	52.3	19.3	13.6
42.5°	3083.0	2541.5	2011.5	1508.6	1234.0	854.9	508.7	274.7	36.8	13.6	9.6
45°	2017.3	1502.9	1085.0	734.9	638.3	361.7	236.0	170.1	27.1	9.6	7.7
47.5°	835.6	609.3	423.6	305.6	247.6	193.3	150.8	110.3	19.3	7.7	7.7
50°	367.5	290.1	230.1	179.9	156.7	125.7	96.7	67.7	11.6	5.9	5.9
51°	294.0	234.0	179.9	143.2	127.6	102.5	79.3	54.1	11.6	5.9	5.9
52°	232.1	181.7	141.2	110.3	102.5	83.2	65.7	44.5	9.6	5.9	5.9
53°	178.0	137.3	106.4	87.1	81.2	67.7	54.1	36.8	7.7	5.9	5.9
54°	131.6	104.4	83.2	67.7	65.7	54.1	44.5	30.9	7.7	5.9	5.9
55°	96.7	81.2	63.9	54.1	52.3	44.5	36.8	25.2	7.7	5.9	5.9
57.5°	50.3	42.5	34.8	30.9	30.9	29.1	25.2	15.5	5.9	3.9	5.9
60°	27.1	23.2	19.3	17.5	21.2	19.3	17.5	9.6	5.9	3.9	5.9
61°	21.2	19.3	15.5	13.6	17.5	15.5	15.5	7.7	5.9	5.9	5.9
62°	17.5	15.5	13.6	11.6	15.5	13.6	13.6	7.7	5.9	5.9	5.9
63°	13.6	11.6	9.6	9.6	13.6	13.6	11.6	5.9	5.9	5.9	5.9
64°	9.6	9.6	7.7	7.7	11.6	11.6	9.6	5.9	5.9	5.9	5.9
65°	7.7	7.7	5.9	5.9	9.6	9.6	9.6	5.9	5.9	5.9	5.9
66°	5.9	5.9	5.9	3.9	7.7	9.6	9.6	3.9	5.9	5.9	5.9



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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°	2.0	2.0	2.0	2.0	5.9	7.7	7.7	3.9	5.9	5.9	5.9
75°	2.0	2.0	2.0	2.0	5.9	7.7	7.7	3.9	5.9	5.9	5.9
77.5°	2.0	2.0	2.0	2.0	5.9	7.7	7.7	3.9	5.9	5.9	7.7
80°	2.0	2.0	2.0	2.0	5.9	7.7	7.7	3.9	5.9	5.9	7.7
82.5°	2.0	2.0	2.0	2.0	5.9	7.7	7.7	3.9	5.9	5.9	7.7
85°	2.0	2.0	2.0	2.0	5.9	7.7	7.7	3.9	5.9	5.9	7.7
87.5°	2.0	2.0	2.0	2.0	5.9	7.7	7.7	3.9	5.9	5.9	7.7
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°	224.4	224.4	224.4
2.5°	168.3	158.5	156.7
5°	139.2	129.6	127.6
7.5°	127.6	120.0	118.0
10°	131.6	133.5	137.3
12.5°	168.3	185.7	201.2
15°	270.8	340.4	388.8
17.5°	472.0	522.2	555.2
20°	414.0	381.0	382.9
22.5°	232.1	208.9	206.9
25°	141.2	127.6	123.7
26°	118.0	106.4	102.5
27°	96.7	87.1	83.2
28°	79.3	71.6	69.6
29°	67.7	58.0	56.1
30°	56.1	48.4	46.4
31°	46.4	40.7	38.7
32°	40.7	34.8	30.9
33°	32.9	29.1	27.1
34°	29.1	23.2	21.2
35°	23.2	19.3	19.3
36°	21.2	17.5	15.5
37°	17.5	13.6	13.6
38°	15.5	11.6	9.6
39°	13.6	9.6	7.7
40°	11.6	7.7	5.9
42.5°	7.7	3.9	2.0
45°	5.9	2.0	0.0
47.5°	3.9	2.0	0.0
50°	3.9	0.0	0.0
51°	3.9	0.0	0.0
52°	3.9	0.0	0.0
53°	3.9	0.0	0.0
54°	3.9	0.0	0.0
55°	3.9	0.0	0.0
57.5°	3.9	0.0	0.0
60°	3.9	0.0	0.0
61°	3.9	0.0	0.0
62°	3.9	0.0	0.0
63°	3.9	2.0	0.0
64°	3.9	2.0	0.0
65°	3.9	2.0	0.0
66°	3.9	2.0	0.0



TEST NUMBER: P1191911

CATALOG NUMBER: LDA4A35935D010TE LAR25NF 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	5.9	2.0	0.0
75°	5.9	2.0	0.0
77.5°	5.9	2.0	0.0
80°	5.9	2.0	0.0
82.5°	5.9	2.0	0.0
85°	5.9	2.0	0.0
87.5°	3.9	2.0	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°	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	5.9	3.9
70°	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	2.0	2.0

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67.5°	3.9	3.9	3.9	3.9	7.7	7.7	7.7	3.9	5.9	5.9	5.9
70°	2.0	2.0	2.0	3.9	5.9	7.7	7.7	3.9	5.9	5.9	5.9

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67.5°	3.9	2.0	0.0
70°	3.9	2.0	0.0

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Scaled Data Report



(END OF REPORT)