

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: P1212804

Luminaire Tested: **LDA4A30950D010TE 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: P1212804
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: LDA4A30950D010TE 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 / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

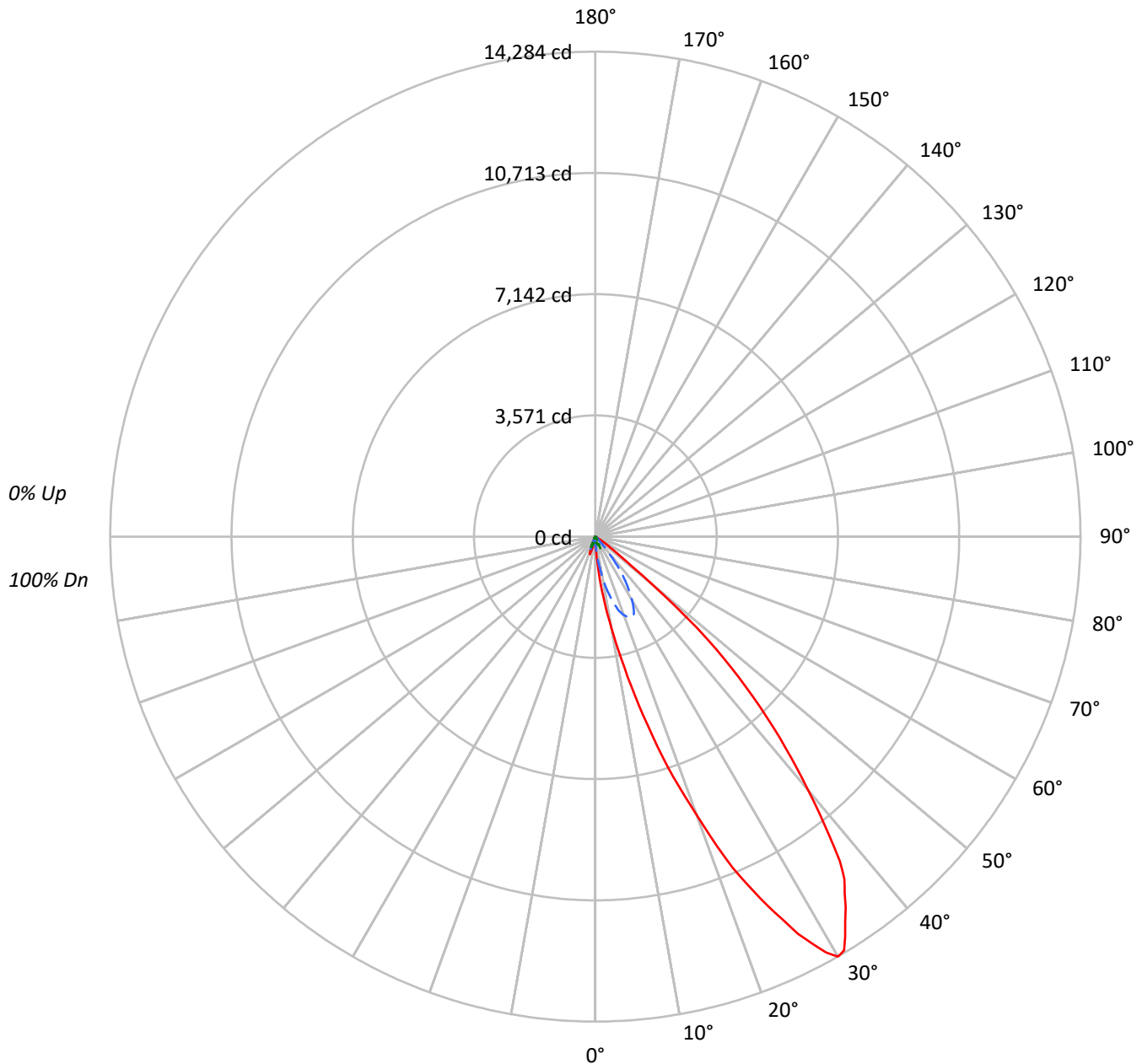
Lumens per Lamp: N/A
Luminaire Lumens: 3308.3 lumens
Efficiency: N/A
Efficacy: 84.0 lumens/watt
Spacing Criteria (0/90/45): 2.56 / 1.01 / 1.3
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 39.4
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	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	58	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	38	48	42	37	47	41	37	46	41	37	36		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	27050	27050	27050
5°	117502	25506	15452
10°	338810	22983	16808
15°	694275	25348	48525
20°	1145403	47136	49144
25°	1631665	30091	16468
30°	2034431	13189	6466
35°	1927674	5963	2846
40°	1570021	3043	902
45°	1099738	1657	0
50°	412087	1075	0
55°	87825	1204	0
60°	16775	937	0
65°	4991	1634	0
70°	1370	2020	0
75°	0	2669	0
80°	0	3978	0
85°	0	7925	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	46.0	1.4
10°-20°	396.2	12.0
20°-30°	1012.1	30.6
30°-40°	1172.1	35.4
40°-50°	604.7	18.3
50°-60°	62.4	1.9
60°-70°	6.7	0.2
70°-80°	4.2	0.1
80°-90°	3.8	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°	1454.2	44.0
0°-40°	2626.3	79.4
0°-60°	3293.5	99.6
0°-90°	3308.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3308.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	219	219	219	219	219	
5°	949	493	206	136	125	148
15°	5437	1991	198	265	380	1664
25°	11989	2599	221	138	121	5570
35°	12802	1422	40	23	19	7839
45°	6304	166	10	6	0	4721
55°	408	24	6	4	0	511
65°	17	6	6	4	0	22
75°	0	4	6	6	0	0
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°	219.3	219.3	219.3	219.3	219.3	219.3	219.3	219.3	219.3	219.3	219.3
2.5°	378.0	364.9	355.5	359.1	380.0	357.3	359.1	351.6	347.9	344.0	334.6
5°	949.0	911.1	886.6	888.5	833.7	875.4	871.5	839.4	818.6	778.9	756.1
7.5°	1780.8	1699.5	1671.1	1661.6	1667.4	1627.6	1610.5	1569.0	1514.1	1442.4	1400.9
10°	2705.1	2656.1	2639.0	2608.8	2606.9	2537.0	2495.4	2442.4	2332.8	2232.6	2158.9
12.5°	3941.5	3790.4	3763.9	3707.1	3692.0	3572.9	3486.0	3408.4	3225.0	3092.6	2975.5
15°	5436.9	5314.0	5342.4	5168.4	5121.1	4926.5	4763.9	4597.5	4300.6	4098.4	3890.4
17.5°	7134.4	6977.5	6996.4	6779.0	6387.7	6423.6	6187.4	5958.6	5540.8	5270.5	4949.0
20°	8726.1	8614.6	8622.1	8333.0	8200.6	7841.5	7525.6	7253.5	6697.7	6353.7	5928.4
22.5°	10558.0	10268.6	10213.9	9820.6	9588.2	9106.1	8665.6	8304.6	7631.5	7244.0	6722.4
25°	11989.0	11790.5	11639.2	11174.2	10850.9	10223.4	9713.0	9178.0	8368.9	7939.7	7319.6
26°	12525.9	12338.7	12144.0	11643.0	11280.0	10616.5	10060.9	9486.0	8620.4	8161.0	7486.0
27°	13132.6	12826.4	12592.0	12030.5	11637.4	10939.9	10280.1	9737.5	8811.2	8302.6	7591.9
28°	13561.9	13255.5	12945.5	12334.9	11909.6	11179.9	10493.6	9901.9	8922.7	8370.6	7635.4
29°	14002.4	13677.1	13225.4	12560.0	12096.7	11329.1	10616.5	9983.2	8954.9	8367.0	7612.6
30°	14284.0	13956.9	13372.7	12686.5	12196.9	11389.7	10650.5	9968.1	8903.9	8291.4	7529.5
31°	14217.8	13917.2	13336.9	12699.9	12187.4	11353.9	10588.1	9860.4	8775.3	8157.1	7378.4
32°	13887.0	13631.7	13191.4	12610.9	12083.6	11231.0	10442.6	9690.2	8590.0	8000.2	7194.9
33°	13503.2	13291.5	12987.1	12431.4	11902.1	11045.6	10242.2	9480.4	8376.5	7786.6	6973.7
34°	13181.9	12991.0	12709.2	12189.4	11654.4	10798.0	9989.0	9215.6	8132.6	7535.1	6712.9
35°	12801.9	12628.0	12367.1	11862.3	11310.4	10465.4	9671.4	8909.5	7845.1	7236.5	6410.5
36°	12471.1	12196.9	11932.3	11440.8	10890.7	10062.6	9297.1	8550.4	7520.0	6894.4	6070.1
37°	11958.6	11684.6	11401.1	10936.0	10393.4	9601.4	8881.1	8166.6	7149.5	6637.2	5707.1
38°	11193.1	11066.4	10782.9	10340.5	9835.9	9092.9	8425.6	7729.9	6731.7	6140.1	5321.5
39°	10478.5	10374.5	10098.6	9694.0	9227.1	8546.5	7920.8	7238.4	6261.0	5701.5	4915.0
40°	9750.7	9646.8	9387.9	9022.9	8603.2	7977.5	7384.0	6714.7	5767.6	5249.6	4506.6
42.5°	8026.6	7919.0	7864.1	7491.6	7047.5	6510.6	5960.4	5355.5	4550.2	4125.0	3542.6
45°	6304.5	6206.2	6000.1	5847.0	5450.0	5004.0	4555.9	4062.4	3468.9	3049.2	2504.8
47.5°	4506.6	4459.5	4467.0	4183.5	3805.5	3453.8	3083.3	2637.1	2111.6	1584.1	1162.6
50°	2147.5	2160.7	2213.6	2015.1	1731.6	1525.6	1306.3	1024.6	748.6	587.9	455.5
51°	1391.4	1406.5	1451.8	1310.1	1104.0	964.1	824.2	665.5	531.1	451.9	361.1
52°	941.4	941.4	950.9	867.7	765.5	686.2	605.0	512.4	414.0	355.5	285.5
53°	707.0	705.1	709.0	654.1	584.1	525.5	468.8	400.8	327.1	277.9	221.1
54°	540.6	538.8	542.6	501.0	451.9	408.4	364.9	313.9	253.3	208.0	166.4
55°	408.4	408.4	414.0	381.9	344.0	310.0	277.9	234.4	187.1	151.2	121.0
57.5°	164.4	164.4	170.1	158.8	141.9	128.5	117.1	100.2	83.1	70.0	56.7
60°	68.0	70.0	71.9	66.1	62.4	58.6	54.9	49.1	43.5	36.0	30.2
61°	51.1	51.1	52.9	49.1	47.3	43.5	41.6	37.9	34.0	28.4	24.5
62°	37.9	37.9	39.6	37.9	36.0	34.0	32.1	30.2	26.5	22.7	18.9
63°	28.4	28.4	30.2	28.4	28.4	26.5	24.5	22.7	20.8	17.1	15.1
64°	22.7	22.7	22.7	20.8	20.8	20.8	18.9	18.9	15.1	13.2	11.3
65°	17.1	17.1	17.1	17.1	15.1	15.1	15.1	13.2	13.2	9.5	9.5
66°	13.2	13.2	13.2	11.3	11.3	11.3	11.3	11.3	9.5	7.6	5.6



TEST NUMBER: P1212804

CATALOG NUMBER: LDA4A30950D010TE 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	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
75°	0.0	0.0	0.0	0.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9
77.5°	0.0	0.0	0.0	0.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9
80°	0.0	0.0	0.0	0.0	0.0	1.9	1.9	1.9	1.9	1.9	1.9
82.5°	0.0	0.0	0.0	0.0	0.0	1.9	1.9	1.9	1.9	1.9	1.9
85°	0.0	0.0	0.0	0.0	0.0	1.9	1.9	1.9	1.9	1.9	1.9
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.9	1.9	1.9	1.9	1.9
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°	219.3	219.3	219.3	219.3	219.3	219.3	219.3	219.3	219.3	219.3	219.3
2.5°	338.4	336.5	317.6	317.6	325.1	313.9	308.0	294.9	253.3	215.5	181.5
5°	748.6	727.9	663.5	644.6	642.7	589.9	559.5	493.4	289.1	206.0	156.9
7.5°	1382.0	1319.6	1209.9	1151.3	1079.4	1037.9	964.1	850.6	329.0	192.9	141.9
10°	2043.5	1973.6	1811.1	1707.1	1652.1	1518.0	1395.1	1240.1	368.6	183.5	139.9
12.5°	2801.6	2644.6	2489.7	2304.4	2140.0	2020.9	1816.7	1635.2	395.1	181.5	153.1
15°	3622.0	3425.4	3160.9	2911.2	2678.6	2508.6	2234.4	1990.6	404.6	198.5	200.4
17.5°	4540.8	4172.1	3790.4	3450.0	3130.5	2901.8	2561.5	2274.2	398.9	243.9	319.5
20°	5400.9	4911.4	4393.4	3920.7	3468.9	3172.1	2779.0	2467.0	400.8	359.1	431.0
22.5°	6083.4	5487.9	4856.5	4279.9	3707.1	3351.6	2922.6	2569.0	449.9	383.9	293.0
25°	6586.1	5884.9	5160.9	4497.4	3894.2	3495.4	3024.6	2599.4	419.6	221.1	166.4
26°	6720.5	5981.4	5217.6	4529.4	3917.0	3495.4	3009.6	2567.1	363.0	175.9	138.0
27°	6796.0	6024.7	5227.0	4514.3	3888.6	3455.6	2954.6	2503.0	296.8	147.5	117.1
28°	6805.4	6005.9	5179.6	4451.9	3809.1	3370.5	2856.5	2404.6	245.9	124.8	96.4
29°	6754.5	5935.9	5089.0	4347.9	3688.2	3245.8	2722.1	2283.6	209.9	107.8	81.3
30°	6646.6	5813.0	4951.0	4208.0	3531.3	3094.6	2565.4	2149.5	183.5	92.6	68.0
31°	6491.7	5644.8	4801.6	4041.6	3366.9	2943.4	2417.9	2013.3	162.6	77.5	56.7
32°	6291.4	5446.4	4608.9	3862.0	3219.4	2799.7	2276.0	1875.3	145.5	66.1	47.3
33°	6068.2	5221.3	4399.0	3674.9	3077.6	2652.2	2126.7	1729.6	130.4	54.9	39.6
34°	5811.1	4973.6	4175.9	3487.8	2926.4	2489.7	1966.0	1580.4	113.5	45.4	34.0
35°	5518.0	4697.6	3935.9	3317.6	2758.1	2313.9	1797.8	1421.6	100.2	39.6	28.4
36°	5200.5	4410.3	3693.9	3123.0	2576.6	2130.5	1620.1	1260.9	86.9	34.0	24.5
37°	4867.8	4111.6	3452.0	2901.8	2376.2	1935.9	1436.7	1087.0	75.6	28.4	20.8
38°	4516.1	3811.1	3217.4	2691.9	2164.6	1726.0	1249.6	896.1	66.1	24.5	18.9
39°	4157.0	3514.4	2985.0	2461.4	1947.1	1520.0	1070.0	695.7	58.6	20.8	17.1
40°	3805.5	3234.5	2739.2	2209.9	1729.6	1317.6	896.1	512.4	51.1	18.9	13.2
42.5°	3013.4	2484.0	1966.0	1474.5	1206.1	835.5	497.1	268.4	36.0	13.2	9.5
45°	1971.6	1468.9	1060.5	718.4	623.9	353.5	230.6	166.4	26.5	9.5	7.6
47.5°	816.6	595.5	414.0	298.6	242.0	189.1	147.5	107.8	18.9	7.6	7.6
50°	359.1	283.5	225.0	175.9	153.1	122.9	94.5	66.1	11.3	5.6	5.6
51°	287.4	228.7	175.9	139.9	124.8	100.2	77.5	52.9	11.3	5.6	5.6
52°	226.9	177.6	138.0	107.8	100.2	81.3	64.4	43.5	9.5	5.6	5.6
53°	174.0	134.2	104.0	85.1	79.5	66.1	52.9	36.0	7.6	5.6	5.6
54°	128.5	102.0	81.3	66.1	64.4	52.9	43.5	30.2	7.6	5.6	5.6
55°	94.5	79.5	62.4	52.9	51.1	43.5	36.0	24.5	7.6	5.6	5.6
57.5°	49.1	41.6	34.0	30.2	30.2	28.4	24.5	15.1	5.6	3.8	5.6
60°	26.5	22.7	18.9	17.1	20.8	18.9	17.1	9.5	5.6	3.8	5.6
61°	20.8	18.9	15.1	13.2	17.1	15.1	15.1	7.6	5.6	5.6	5.6
62°	17.1	15.1	13.2	11.3	15.1	13.2	13.2	7.6	5.6	5.6	5.6
63°	13.2	11.3	9.5	9.5	13.2	13.2	11.3	5.6	5.6	5.6	5.6
64°	9.5	9.5	7.6	7.6	11.3	11.3	9.5	5.6	5.6	5.6	5.6
65°	7.6	7.6	5.6	5.6	9.5	9.5	9.5	5.6	5.6	5.6	5.6
66°	5.6	5.6	5.6	3.8	7.6	9.5	9.5	3.8	5.6	5.6	5.6



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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°	1.9	1.9	1.9	1.9	5.6	7.6	7.6	3.8	5.6	5.6	5.6
75°	1.9	1.9	1.9	1.9	5.6	7.6	7.6	3.8	5.6	5.6	5.6
77.5°	1.9	1.9	1.9	1.9	5.6	7.6	7.6	3.8	5.6	5.6	7.6
80°	1.9	1.9	1.9	1.9	5.6	7.6	7.6	3.8	5.6	5.6	7.6
82.5°	1.9	1.9	1.9	1.9	5.6	7.6	7.6	3.8	5.6	5.6	7.6
85°	1.9	1.9	1.9	1.9	5.6	7.6	7.6	3.8	5.6	5.6	7.6
87.5°	1.9	1.9	1.9	1.9	5.6	7.6	7.6	3.8	5.6	5.6	7.6
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: LDA4A30950D010TE LAR25NF 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
0°	219.3	219.3	219.3
2.5°	164.4	155.0	153.1
5°	136.0	126.6	124.8
7.5°	124.8	117.1	115.3
10°	128.5	130.4	134.2
12.5°	164.4	181.5	196.6
15°	264.6	332.7	380.0
17.5°	461.3	510.4	542.6
20°	404.6	372.4	374.4
22.5°	226.9	204.2	202.4
25°	138.0	124.8	121.0
26°	115.3	104.0	100.2
27°	94.5	85.1	81.3
28°	77.5	70.0	68.0
29°	66.1	56.7	54.9
30°	54.9	47.3	45.4
31°	45.4	39.6	37.9
32°	39.6	34.0	30.2
33°	32.1	28.4	26.5
34°	28.4	22.7	20.8
35°	22.7	18.9	18.9
36°	20.8	17.1	15.1
37°	17.1	13.2	13.2
38°	15.1	11.3	9.5
39°	13.2	9.5	7.6
40°	11.3	7.6	5.6
42.5°	7.6	3.8	1.9
45°	5.6	1.9	0.0
47.5°	3.8	1.9	0.0
50°	3.8	0.0	0.0
51°	3.8	0.0	0.0
52°	3.8	0.0	0.0
53°	3.8	0.0	0.0
54°	3.8	0.0	0.0
55°	3.8	0.0	0.0
57.5°	3.8	0.0	0.0
60°	3.8	0.0	0.0
61°	3.8	0.0	0.0
62°	3.8	0.0	0.0
63°	3.8	1.9	0.0
64°	3.8	1.9	0.0
65°	3.8	1.9	0.0
66°	3.8	1.9	0.0



TEST NUMBER: P1212804

CATALOG NUMBER: LDA4A30950D010TE LAR25NF 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	5.6	1.9	0.0
75°	5.6	1.9	0.0
77.5°	5.6	1.9	0.0
80°	5.6	1.9	0.0
82.5°	5.6	1.9	0.0
85°	5.6	1.9	0.0
87.5°	3.8	1.9	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°	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	5.6	3.8
70°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	1.9	1.9

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67.5°	3.8	3.8	3.8	3.8	7.6	7.6	7.6	3.8	5.6	5.6	5.6
70°	1.9	1.9	1.9	3.8	5.6	7.6	7.6	3.8	5.6	5.6	5.6

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67.5°	3.8	1.9	0.0
70°	3.8	1.9	0.0

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(END OF REPORT)