

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: P1191929

Luminaire Tested: **LDA4A35940D010TE 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: P1191929
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: LDA4A35940D010TE 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

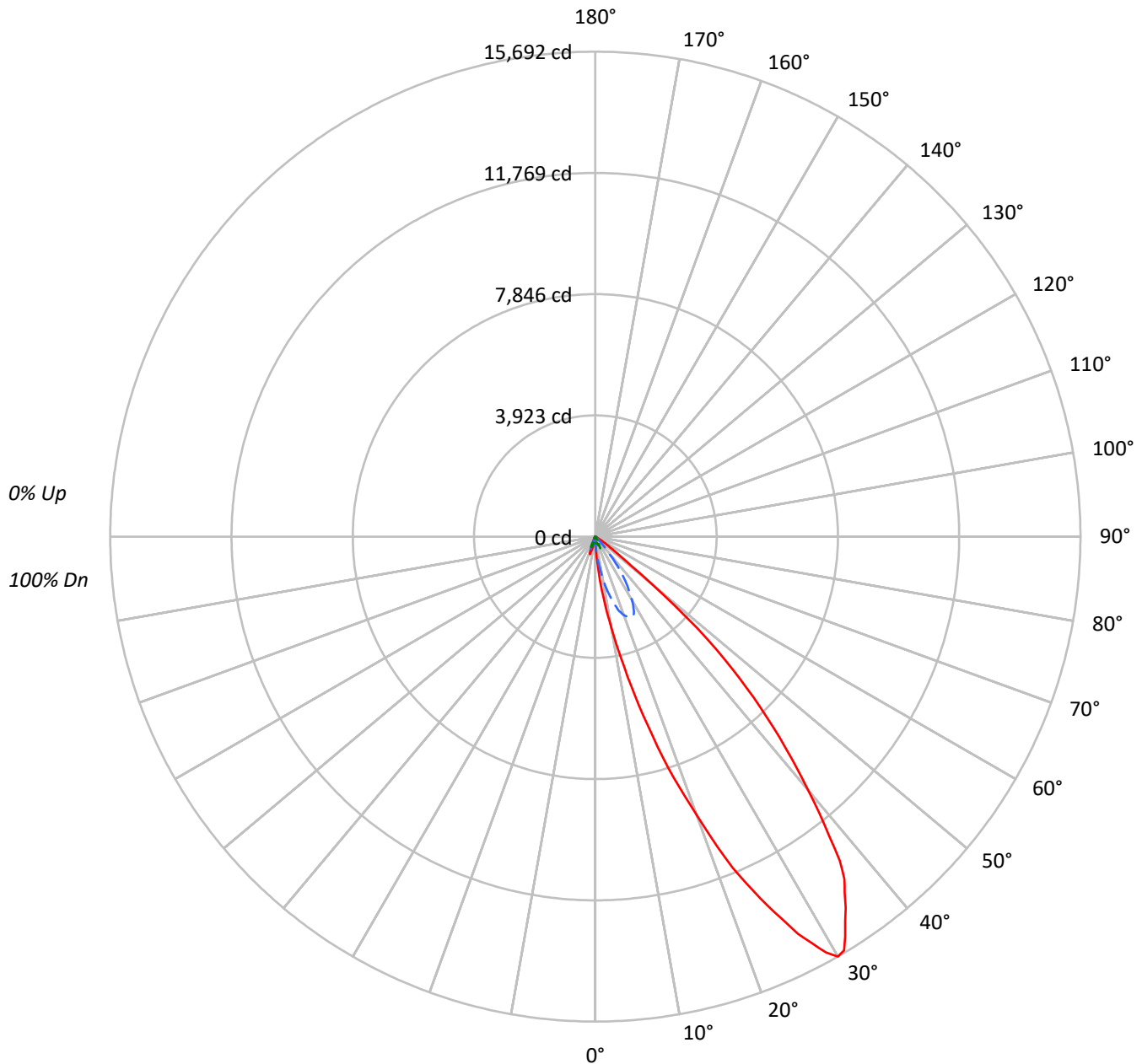
Lumens per Lamp: N/A
Luminaire Lumens: 3634.3 lumens
Efficiency: N/A
Efficacy: 77.2 lumens/watt
Spacing Criteria (0/90/45): 2.56 / 1.01 / 1.3
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P1191929

CATALOG NUMBER: LDA4A35940D010TE LAR25NF 4LA1 30° Tilt

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P1191929

CATALOG NUMBER: LDA4A35940D010TE LAR25NF 4LA1 30° Tilt

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°	29726	29726	29726
5°	129079	28020	16975
10°	372201	25238	18462
15°	762682	27851	53301
20°	1258261	51783	53975
25°	1792450	33058	18087
30°	2234897	14485	7107
35°	2117628	6565	3132
40°	1724726	3349	998
45°	1208099	1814	0
50°	452692	1190	0
55°	96470	1333	0
60°	18428	1036	0
65°	5458	1810	0
70°	1515	2236	0
75°	0	2955	0
80°	0	4404	0
85°	0	8774	0



TEST NUMBER: P1191929

CATALOG NUMBER: LDA4A35940D010TE LAR25NF 4LA1 30° Tilt

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	50.5	1.4
10°-20°	435.2	12.0
20°-30°	1111.8	30.6
30°-40°	1287.6	35.4
40°-50°	664.3	18.3
50°-60°	68.6	1.9
60°-70°	7.4	0.2
70°-80°	4.7	0.1
80°-90°	4.2	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°	1597.5	44.0
0°-40°	2885.1	79.4
0°-60°	3618.0	99.6
0°-90°	3634.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3634.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	241	241	241	241	241	
5°	1042	542	226	150	137	163
15°	5973	2187	218	291	417	1828
25°	13170	2856	243	152	133	6119
35°	14063	1562	44	25	21	8612
45°	6926	183	10	6	0	5186
55°	449	27	6	4	0	562
65°	19	6	6	4	0	24
75°	0	4	6	6	0	1
85°	0	4	6	6	0	0
90°	0	0	0	0	0	

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P1191929

CATALOG NUMBER: LDA4A35940D010TE LAR25NF 4LA1 30° Tilt

CANDELA DISTRIBUTION (FULL):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	25°
0°	241.0	241.0	241.0	241.0	241.0	241.0	241.0	241.0	241.0	241.0	241.0
2.5°	415.3	400.8	390.4	394.5	417.4	392.6	394.5	386.2	382.2	377.9	367.5
5°	1042.5	1000.9	973.9	976.0	915.8	961.6	957.4	922.1	899.2	855.6	830.6
7.5°	1956.3	1866.9	1835.8	1825.4	1831.7	1788.0	1769.3	1723.6	1663.4	1584.5	1538.9
10°	2971.7	2917.7	2899.1	2865.9	2863.8	2786.9	2741.3	2683.1	2562.7	2452.5	2371.6
12.5°	4329.9	4163.8	4134.7	4072.4	4055.8	3925.0	3829.4	3744.3	3542.8	3397.4	3268.7
15°	5972.6	5837.6	5868.8	5677.7	5625.7	5411.9	5233.3	5050.5	4724.4	4502.3	4273.8
17.5°	7837.4	7665.1	7685.8	7447.0	7017.1	7056.5	6797.1	6545.7	6086.8	5789.8	5436.7
20°	9585.9	9463.4	9471.7	9154.1	9008.6	8614.1	8267.2	7968.2	7357.6	6979.7	6512.5
22.5°	11598.3	11280.5	11220.4	10788.3	10532.9	10003.4	9519.5	9122.9	8383.6	7957.8	7384.8
25°	13170.4	12952.3	12786.1	12275.2	11920.2	11230.8	10670.0	10082.3	9193.5	8722.0	8040.9
26°	13760.2	13554.5	13340.6	12790.3	12391.6	11662.7	11052.2	10420.8	9469.8	8965.1	8223.7
27°	14426.7	14090.3	13832.8	13216.0	12784.1	12017.8	11293.0	10697.0	9679.4	9120.8	8340.0
28°	14898.2	14561.7	14221.1	13550.4	13083.1	12281.6	11527.6	10877.7	9801.9	9195.5	8387.8
29°	15382.1	15024.8	14528.6	13797.5	13288.6	12445.5	11662.7	10966.9	9837.3	9191.4	8362.8
30°	15691.5	15332.2	14690.4	13936.6	13398.8	12512.0	11700.0	10950.3	9781.2	9108.4	8271.4
31°	15618.8	15288.5	14651.1	13951.3	13388.4	12472.6	11631.5	10832.0	9640.0	8960.9	8105.4
32°	15255.4	14974.9	14491.2	13853.6	13274.2	12337.6	11471.6	10645.0	9436.5	8788.5	7903.9
33°	14833.7	14601.2	14266.8	13656.3	13074.8	12134.0	11251.4	10414.6	9201.8	8553.8	7660.8
34°	14480.8	14271.0	13961.5	13390.5	12802.8	11862.0	10973.2	10123.8	8933.9	8277.6	7374.4
35°	14063.4	13872.3	13585.7	13031.3	12424.9	11496.6	10624.4	9787.4	8618.2	7949.6	7042.1
36°	13699.9	13398.8	13108.1	12568.2	11963.7	11054.2	10213.1	9392.9	8261.0	7573.7	6668.2
37°	13137.1	12836.0	12524.5	12013.6	11417.6	10547.5	9756.2	8971.3	7854.0	7291.2	6269.5
38°	12296.0	12156.9	11845.5	11359.5	10805.1	9988.9	9255.8	8491.6	7395.0	6745.1	5845.9
39°	11511.1	11396.8	11093.6	10649.2	10136.3	9388.7	8701.4	7951.7	6878.0	6263.3	5399.4
40°	10711.5	10597.4	10312.9	9912.0	9450.9	8763.6	8111.6	7376.3	6335.9	5766.9	4950.7
42.5°	8817.6	8699.3	8639.0	8229.9	7741.9	7152.1	6547.8	5883.2	4998.5	4531.4	3891.7
45°	6925.7	6817.7	6591.4	6423.2	5987.1	5497.0	5004.8	4462.8	3810.7	3349.6	2751.7
47.5°	4950.7	4898.9	4907.2	4595.7	4180.4	3794.2	3387.1	2896.9	2319.6	1740.2	1277.1
50°	2359.1	2373.6	2431.7	2213.7	1902.2	1675.9	1435.1	1125.5	822.3	645.9	500.5
51°	1528.5	1545.1	1594.9	1439.1	1212.8	1059.1	905.4	731.0	583.5	496.4	396.6
52°	1034.2	1034.2	1044.6	953.1	841.0	753.8	664.6	562.8	454.8	390.4	313.6
53°	776.7	774.6	778.8	718.5	641.7	577.3	515.1	440.3	359.3	305.3	242.9
54°	593.9	591.9	596.0	550.3	496.4	448.6	400.8	344.8	278.3	228.5	182.8
55°	448.6	448.6	454.8	419.5	377.9	340.6	305.3	257.5	205.5	166.1	132.9
57.5°	180.7	180.7	186.9	174.5	155.8	141.2	128.7	110.0	91.3	76.9	62.2
60°	74.7	76.9	79.0	72.6	68.6	64.3	60.3	53.9	47.8	39.5	33.2
61°	56.1	56.1	58.2	53.9	52.0	47.8	45.7	41.6	37.4	31.2	27.0
62°	41.6	41.6	43.6	41.6	39.5	37.4	35.3	33.2	29.1	24.9	20.8
63°	31.2	31.2	33.2	31.2	31.2	29.1	27.0	24.9	22.9	18.7	16.6
64°	24.9	24.9	24.9	22.9	22.9	22.9	20.8	20.8	16.6	14.5	12.5
65°	18.7	18.7	18.7	18.7	16.6	16.6	16.6	14.5	14.5	10.4	10.4
66°	14.5	14.5	14.5	12.5	12.5	12.5	12.5	12.5	10.4	8.3	6.2



TEST NUMBER: P1191929

CATALOG NUMBER: LDA4A35940D010TE 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	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
75°	0.0	0.0	0.0	0.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1
77.5°	0.0	0.0	0.0	0.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1
80°	0.0	0.0	0.0	0.0	0.0	2.1	2.1	2.1	2.1	2.1	2.1
82.5°	0.0	0.0	0.0	0.0	0.0	2.1	2.1	2.1	2.1	2.1	2.1
85°	0.0	0.0	0.0	0.0	0.0	2.1	2.1	2.1	2.1	2.1	2.1
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	2.1	2.1	2.1	2.1	2.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P1191929

CATALOG NUMBER: LDA4A35940D010TE LAR25NF 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	67.5°	90°	112.5°
0°	241.0	241.0	241.0	241.0	241.0	241.0	241.0	241.0	241.0	241.0	241.0
2.5°	371.8	369.7	348.9	348.9	357.1	344.8	338.5	324.0	278.3	236.7	199.4
5°	822.3	799.6	728.9	708.1	706.0	648.0	614.7	542.0	317.7	226.3	172.4
7.5°	1518.1	1449.5	1329.1	1264.8	1185.8	1140.2	1059.1	934.5	361.4	211.9	155.8
10°	2244.9	2168.0	1989.5	1875.2	1815.0	1667.6	1532.6	1362.3	404.9	201.5	153.7
12.5°	3077.6	2905.2	2734.9	2531.5	2350.8	2220.0	1995.6	1796.3	434.0	199.4	168.2
15°	3978.9	3763.0	3472.3	3198.0	2942.6	2755.7	2454.7	2186.7	444.4	218.1	220.2
17.5°	4988.3	4583.2	4163.8	3790.0	3439.0	3187.8	2813.9	2498.2	438.2	267.9	351.0
20°	5933.1	5395.3	4826.3	4307.0	3810.7	3484.6	3052.8	2710.1	440.3	394.5	473.5
22.5°	6682.8	6028.7	5335.0	4701.7	4072.4	3681.9	3210.5	2822.2	494.3	421.6	321.9
25°	7235.1	6464.8	5669.4	4940.5	4277.9	3839.8	3322.7	2855.5	461.0	242.9	182.8
26°	7382.6	6570.7	5731.6	4975.8	4302.9	3839.8	3306.1	2820.1	398.7	193.2	151.6
27°	7465.7	6618.3	5742.0	4959.2	4271.7	3796.1	3245.8	2749.6	326.1	162.0	128.7
28°	7476.1	6597.7	5690.1	4890.6	4184.5	3702.7	3137.9	2641.5	270.0	137.1	105.9
29°	7420.0	6520.8	5590.4	4776.4	4051.6	3565.7	2990.4	2508.6	230.6	118.4	89.4
30°	7301.6	6385.8	5438.8	4622.7	3879.3	3399.5	2818.1	2361.2	201.5	101.7	74.7
31°	7131.3	6201.1	5274.7	4439.9	3698.6	3233.4	2656.1	2211.7	178.6	85.1	62.2
32°	6911.3	5983.0	5063.0	4242.6	3536.6	3075.5	2500.3	2060.1	159.9	72.6	52.0
33°	6666.1	5735.9	4832.5	4037.1	3380.8	2913.5	2336.2	1900.1	143.3	60.3	43.6
34°	6383.7	5463.7	4587.4	3831.5	3214.8	2734.9	2159.7	1736.1	124.6	49.9	37.4
35°	6061.8	5160.5	4323.7	3644.5	3029.9	2541.9	1975.0	1561.6	110.0	43.6	31.2
36°	5713.0	4845.0	4057.9	3430.7	2830.5	2340.4	1779.7	1385.2	95.5	37.4	27.0
37°	5347.5	4516.8	3792.1	3187.8	2610.3	2126.6	1578.2	1194.1	83.0	31.2	22.9
38°	4961.1	4186.6	3534.5	2957.2	2377.8	1896.0	1372.7	984.3	72.6	27.0	20.8
39°	4566.6	3860.6	3279.1	2703.9	2139.0	1669.7	1175.4	764.2	64.3	22.9	18.7
40°	4180.4	3553.2	3009.1	2427.7	1900.1	1447.4	984.3	562.8	56.1	20.8	14.5
42.5°	3310.3	2728.8	2159.7	1619.8	1324.9	917.9	546.1	294.9	39.5	14.5	10.4
45°	2165.9	1613.6	1165.0	789.2	685.4	388.3	253.3	182.8	29.1	10.4	8.3
47.5°	897.1	654.2	454.8	328.1	265.8	207.7	162.0	118.4	20.8	8.3	8.3
50°	394.5	311.5	247.1	193.2	168.2	135.0	103.8	72.6	12.5	6.2	6.2
51°	315.7	251.2	193.2	153.7	137.1	110.0	85.1	58.2	12.5	6.2	6.2
52°	249.2	195.1	151.6	118.4	110.0	89.4	70.7	47.8	10.4	6.2	6.2
53°	191.1	147.4	114.2	93.4	87.3	72.6	58.2	39.5	8.3	6.2	6.2
54°	141.2	112.1	89.4	72.6	70.7	58.2	47.8	33.2	8.3	6.2	6.2
55°	103.8	87.3	68.6	58.2	56.1	47.8	39.5	27.0	8.3	6.2	6.2
57.5°	53.9	45.7	37.4	33.2	33.2	31.2	27.0	16.6	6.2	4.2	6.2
60°	29.1	24.9	20.8	18.7	22.9	20.8	18.7	10.4	6.2	4.2	6.2
61°	22.9	20.8	16.6	14.5	18.7	16.6	16.6	8.3	6.2	6.2	6.2
62°	18.7	16.6	14.5	12.5	16.6	14.5	14.5	8.3	6.2	6.2	6.2
63°	14.5	12.5	10.4	10.4	14.5	14.5	12.5	6.2	6.2	6.2	6.2
64°	10.4	10.4	8.3	8.3	12.5	12.5	10.4	6.2	6.2	6.2	6.2
65°	8.3	8.3	6.2	6.2	10.4	10.4	10.4	6.2	6.2	6.2	6.2
66°	6.2	6.2	6.2	4.2	8.3	10.4	10.4	4.2	6.2	6.2	6.2



TEST NUMBER: P1191929

CATALOG NUMBER: LDA4A35940D010TE 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°	2.1	2.1	2.1	2.1	6.2	8.3	8.3	4.2	6.2	6.2	6.2
75°	2.1	2.1	2.1	2.1	6.2	8.3	8.3	4.2	6.2	6.2	6.2
77.5°	2.1	2.1	2.1	2.1	6.2	8.3	8.3	4.2	6.2	6.2	8.3
80°	2.1	2.1	2.1	2.1	6.2	8.3	8.3	4.2	6.2	6.2	8.3
82.5°	2.1	2.1	2.1	2.1	6.2	8.3	8.3	4.2	6.2	6.2	8.3
85°	2.1	2.1	2.1	2.1	6.2	8.3	8.3	4.2	6.2	6.2	8.3
87.5°	2.1	2.1	2.1	2.1	6.2	8.3	8.3	4.2	6.2	6.2	8.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P1191929

CATALOG NUMBER: LDA4A35940D010TE LAR25NF 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
0°	241.0	241.0	241.0
2.5°	180.7	170.3	168.2
5°	149.5	139.1	137.1
7.5°	137.1	128.7	126.7
10°	141.2	143.3	147.4
12.5°	180.7	199.4	215.9
15°	290.7	365.4	417.4
17.5°	506.8	560.7	596.0
20°	444.4	409.1	411.2
22.5°	249.2	224.2	222.3
25°	151.6	137.1	132.9
26°	126.7	114.2	110.0
27°	103.8	93.4	89.4
28°	85.1	76.9	74.7
29°	72.6	62.2	60.3
30°	60.3	52.0	49.9
31°	49.9	43.6	41.6
32°	43.6	37.4	33.2
33°	35.3	31.2	29.1
34°	31.2	24.9	22.9
35°	24.9	20.8	20.8
36°	22.9	18.7	16.6
37°	18.7	14.5	14.5
38°	16.6	12.5	10.4
39°	14.5	10.4	8.3
40°	12.5	8.3	6.2
42.5°	8.3	4.2	2.1
45°	6.2	2.1	0.0
47.5°	4.2	2.1	0.0
50°	4.2	0.0	0.0
51°	4.2	0.0	0.0
52°	4.2	0.0	0.0
53°	4.2	0.0	0.0
54°	4.2	0.0	0.0
55°	4.2	0.0	0.0
57.5°	4.2	0.0	0.0
60°	4.2	0.0	0.0
61°	4.2	0.0	0.0
62°	4.2	0.0	0.0
63°	4.2	2.1	0.0
64°	4.2	2.1	0.0
65°	4.2	2.1	0.0
66°	4.2	2.1	0.0



TEST NUMBER: P1191929

CATALOG NUMBER: LDA4A35940D010TE LAR25NF 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	6.2	2.1	0.0
75°	6.2	2.1	0.0
77.5°	6.2	2.1	0.0
80°	6.2	2.1	0.0
82.5°	6.2	2.1	0.0
85°	6.2	2.1	0.0
87.5°	4.2	2.1	0.0
90°	0.0	0.0	0.0

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



Report Generated By 670245859 / DESKTOP-T8S5UU9

Classified

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269

Scaled Data Report



Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



— 0°-180° - - 45°-225° - - - 90°-270°

Classified

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269

Scaled Data Report



Classified

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269

Scaled Data Report





67.5°	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	6.2	4.2
70°	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	2.1	2.1

Classified

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269

Scaled Data Report



Classified
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



67.5°	4.2	4.2	4.2	4.2	8.3	8.3	8.3	4.2	6.2	6.2	6.2
70°	2.1	2.1	2.1	4.2	6.2	8.3	8.3	4.2	6.2	6.2	6.2

Classified

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269

Scaled Data Report



Classified
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



67.5°	4.2	2.1	0.0
70°	4.2	2.1	0.0

Classified

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)