

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: P1191797

Luminaire Tested: **LDA4A30930D010TE LAR15SP 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: P1191797
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25648)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA4A30930D010TE LAR15SP 4LA1 30° Tilt
Description: PORTFOLIO 4" Adjustable Reflector, Self-flanged Trim Ring, 15° Spot
Optic, at 30° tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

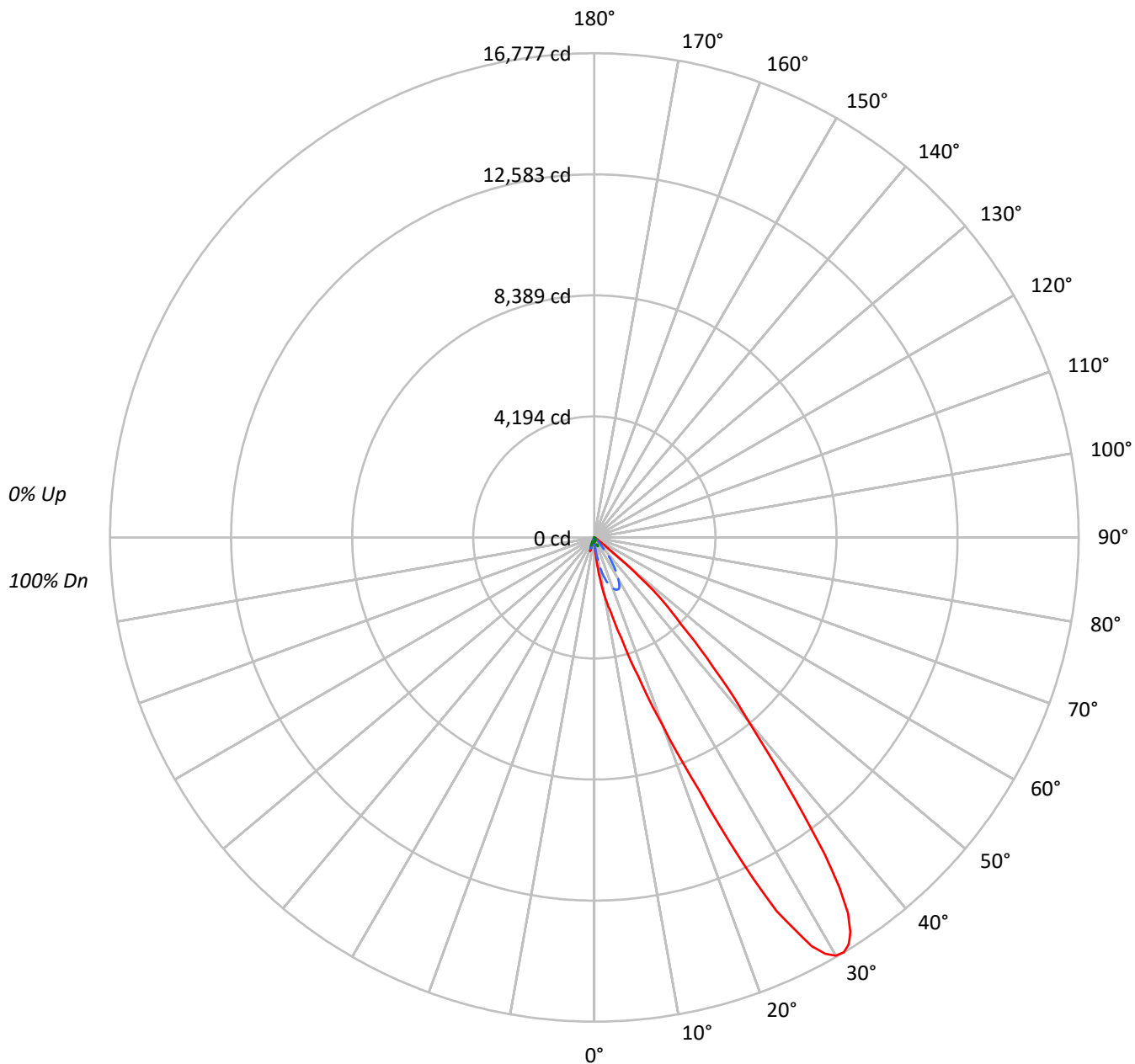
Lumens per Lamp: N/A
Luminaire Lumens: 2706.4 lumens
Efficiency: N/A
Efficacy: 68.7 lumens/watt
Spacing Criteria (0/90/45): 2.52 / 1.04 / 1.28
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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
RCR																				
0	119	119	119	119	116	116	116	116		111	111	111		106	106	106		102	102	102
1	112	109	106	104	110	107	104	102		103	101	99		99	98	96		96	94	93
2	106	100	95	91	103	98	94	90		95	91	88		92	89	86		89	86	84
3	99	91	85	80	97	90	84	80		87	82	78		84	80	77		82	79	76
4	92	83	77	71	90	82	76	71		80	74	70		78	73	69		76	72	68
5	86	76	69	64	84	75	68	63		73	67	63		71	66	62		70	65	62
6	80	69	62	57	79	69	62	57		67	61	56		65	60	56		64	59	56
7	75	64	56	51	73	63	56	51		62	55	51		60	55	50		59	54	50
8	70	58	51	46	69	58	51	46		57	50	46		55	50	46		54	49	45
9	65	54	47	42	64	53	46	42		52	46	41		51	45	41		50	45	41
10	61	49	42	38	60	49	42	38		48	42	38		47	41	37		46	41	37

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	19476	19476	19476
5°	87353	18313	11862
10°	258563	16833	15155
15°	461586	19946	42676
20°	914343	39247	45863
25°	1779221	25600	13038
30°	2383264	9557	4543
35°	2230048	4051	1762
40°	1336355	1884	531
45°	741584	1169	0
50°	272045	959	0
55°	41525	710	0
60°	9103	814	0
65°	2919	963	0
70°	613	1190	0
75°	0	2383	0
80°	0	3552	0
85°	0	7076	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.7	1.3
10°-20°	292.3	10.8
20°-30°	872.6	32.2
30°-40°	1033.5	38.2
40°-50°	428.7	15.8
50°-60°	33.3	1.2
60°-70°	4.5	0.2
70°-80°	3.5	0.1
80°-90°	3.2	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°	1199.7	44.3
0°-40°	2233.2	82.5
0°-60°	2695.2	99.6
0°-90°	2706.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2706.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	158	158	158	158	158	
5°	706	356	148	102	96	112
15°	3615	1527	156	234	334	1193
25°	13073	1984	188	109	96	5971
35°	14810	1105	27	15	12	8583
45°	4251	98	7	5	0	3466
55°	193	14	3	2	0	283
65°	10	3	3	3	0	12
75°	0	3	5	3	0	0
85°	0	3	5	3	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°	157.9	157.9	157.9	157.9	157.9	157.9	157.9	157.9	157.9	157.9	157.9
2.5°	273.8	260.4	267.1	255.4	262.1	250.2	241.9	250.2	250.2	243.6	233.5
5°	705.5	702.1	715.6	683.6	692.1	656.7	626.5	635.0	628.2	606.3	567.7
7.5°	1343.8	1330.4	1345.4	1300.1	1301.7	1243.0	1197.7	1207.7	1177.5	1140.5	1073.3
10°	2064.4	2045.9	2062.7	2009.0	1998.8	1916.5	1852.7	1862.8	1794.0	1733.4	1631.0
12.5°	2689.2	2687.5	2633.8	2643.8	2623.8	2497.7	2457.4	2460.7	2366.7	2299.6	2176.9
15°	3614.7	3650.0	3660.1	3591.3	3466.9	3238.4	3137.7	3099.0	2946.3	2833.6	2657.3
17.5°	5037.4	5086.1	4919.9	4960.1	4755.3	4397.4	4197.6	4078.4	3791.1	3579.5	3260.3
20°	6965.8	6923.7	6683.6	6653.4	6303.9	5843.7	5423.8	5198.7	4756.9	4447.8	3982.6
22.5°	9455.1	9423.1	9011.6	8828.5	8097.9	7449.5	6905.3	6340.9	5684.1	5270.9	4639.4
25°	13073.2	12927.1	12134.2	11613.5	10328.5	9226.6	8319.7	7442.8	6436.6	5988.2	5185.3
26°	14405.2	14370.0	13543.5	12858.2	11309.5	9942.2	8719.4	7840.9	6732.2	6208.2	5339.7
27°	15204.8	15485.3	14715.9	13940.0	12246.7	10609.1	9191.4	8161.8	6962.4	6362.8	5438.9
28°	16034.5	16215.9	15527.3	14553.0	12997.7	11139.8	9549.1	8378.4	7103.5	6438.4	5472.4
29°	16491.5	16666.1	16026.1	15112.4	13489.8	11484.2	9760.8	8474.1	7155.6	6436.6	5442.2
30°	16733.2	16896.3	16271.3	15384.5	13693.0	11591.7	9806.2	8435.5	7105.2	6359.3	5356.6
31°	16777.0	16913.0	16296.5	15376.1	13615.7	11459.0	9678.5	8276.0	6970.8	6216.6	5227.2
32°	16629.2	16734.9	16108.4	15127.5	13268.1	11123.1	9413.1	8029.1	6765.9	6038.6	5060.9
33°	16283.2	16473.0	15708.6	14625.2	12663.3	10625.8	9036.8	7706.6	6510.5	5806.8	4857.8
34°	15710.3	15831.3	15040.1	13839.2	11857.1	10021.2	8574.9	7332.0	6218.3	5533.0	4627.6
35°	14810.0	14917.5	14042.4	12777.5	10938.3	9339.3	8047.5	6918.7	5890.7	5225.5	4372.3
36°	13563.6	13666.1	12750.7	11598.5	10011.0	8628.7	7491.4	6468.6	5536.3	4896.3	4101.9
37°	12107.3	12196.4	11381.7	10441.2	9100.6	7909.7	6928.8	6011.7	5161.8	4560.5	3844.9
38°	10699.8	10780.4	10122.0	9356.0	8222.2	7207.6	6367.8	5538.0	4775.5	4222.8	3574.4
39°	9429.9	9500.4	8969.7	8338.1	7385.7	6534.1	5808.4	5067.6	4387.4	3885.1	3295.5
40°	8299.5	8359.9	7923.2	7404.1	6626.4	5904.2	5264.2	4612.4	4007.8	3557.6	3035.2
42.5°	6092.4	6105.7	5845.5	5539.7	4934.9	4520.1	4064.9	3594.6	3152.8	2843.8	2511.1
45°	4251.3	4417.6	4248.0	4044.7	3611.3	3351.1	3060.5	2776.5	2521.3	2224.0	1894.8
47.5°	3057.1	3063.8	2963.0	2835.3	2492.7	2314.6	2076.1	1731.7	1478.1	1056.5	784.4
50°	1417.7	1338.8	1343.8	1256.5	1120.4	890.2	744.1	530.8	423.3	302.3	243.6
51°	843.2	784.4	792.9	730.7	640.0	498.8	423.3	339.2	294.0	228.5	188.1
52°	492.1	471.9	470.4	441.7	376.3	346.0	305.7	255.4	223.4	176.4	146.1
53°	357.7	344.4	344.4	325.9	280.6	260.4	231.8	196.5	171.3	134.4	110.8
54°	267.1	256.9	256.9	245.2	226.7	194.8	174.6	146.1	127.7	104.2	82.3
55°	193.1	186.5	186.5	178.1	164.6	141.1	126.0	105.8	94.0	75.6	60.4
57.5°	80.6	77.3	77.3	73.9	70.6	60.4	57.1	48.7	41.9	36.9	30.2
60°	36.9	35.2	36.9	35.2	31.9	33.6	28.5	25.2	23.5	20.2	16.8
61°	28.5	26.9	26.9	26.9	23.5	23.5	21.9	20.2	18.5	15.2	13.5
62°	21.9	20.2	20.2	20.2	18.5	18.5	16.8	15.2	15.2	11.7	10.0
63°	16.8	15.2	15.2	15.2	13.5	13.5	13.5	11.7	11.7	10.0	8.4
64°	11.7	11.7	11.7	11.7	11.7	10.0	10.0	10.0	8.4	6.7	6.7
65°	10.0	8.4	10.0	8.4	8.4	8.4	8.4	8.4	6.7	5.0	5.0
66°	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	5.0	3.3



TEST NUMBER: P1191797

CATALOG NUMBER: LDA4A30930D010TE LAR15SP 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	0.0	0.0	1.7	1.7	1.7	1.7	1.7	1.7	1.7
75°	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7	1.7	1.7	1.7
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7	1.7	1.7
80°	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7	1.7	1.7
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	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°	157.9	157.9	157.9	157.9	157.9	157.9	157.9	157.9	157.9	157.9	157.9
2.5°	228.5	235.2	230.2	216.7	223.4	220.0	213.3	208.3	178.1	154.6	131.0
5°	539.2	544.2	515.7	465.2	448.5	421.6	382.9	356.1	201.5	147.9	115.9
7.5°	1019.6	986.0	959.1	865.0	824.8	762.7	688.7	636.6	230.2	139.4	107.5
10°	1543.6	1490.0	1434.4	1296.7	1224.6	1128.8	1022.9	962.5	260.4	134.4	107.5
12.5°	2062.7	1990.5	1889.6	1738.5	1636.1	1506.7	1362.3	1254.8	282.1	137.7	124.3
15°	2512.8	2425.5	2314.6	2143.3	2024.0	1862.8	1674.6	1526.9	292.3	156.2	173.1
17.5°	3003.4	2845.4	2662.3	2444.0	2313.0	2126.5	1914.8	1735.2	292.3	198.2	277.1
20°	3567.7	3278.8	2984.8	2679.2	2494.4	2299.6	2072.8	1879.6	304.0	299.0	381.3
22.5°	4093.4	3695.3	3280.5	2882.4	2625.4	2413.8	2183.6	1961.9	352.7	329.2	253.6
25°	4501.6	3996.1	3507.2	3023.4	2732.9	2497.7	2250.8	1983.8	322.5	188.1	137.7
26°	4607.4	4061.5	3552.6	3040.3	2737.9	2496.1	2244.0	1960.2	270.4	149.4	110.8
27°	4662.8	4083.4	3555.9	3025.1	2717.8	2467.5	2207.1	1911.5	216.7	121.0	90.7
28°	4662.8	4058.2	3520.7	2983.2	2665.7	2413.8	2143.3	1834.2	176.4	99.1	72.3
29°	4615.9	3992.6	3450.1	2919.4	2595.2	2338.2	2055.9	1743.6	149.4	82.3	58.8
30°	4525.1	3896.9	3356.1	2837.1	2504.4	2252.5	1960.2	1649.4	129.4	67.1	47.1
31°	4397.4	3789.4	3240.1	2748.0	2420.5	2173.6	1872.9	1553.8	112.5	53.8	38.6
32°	4244.6	3655.1	3120.9	2655.6	2351.5	2099.6	1782.1	1452.9	97.5	45.4	33.6
33°	4068.2	3503.8	2996.7	2564.9	2284.4	2015.7	1683.1	1343.8	84.0	36.9	28.5
34°	3873.4	3337.6	2869.0	2467.5	2202.1	1909.8	1567.1	1227.9	72.3	31.9	23.5
35°	3661.8	3151.1	2737.9	2368.4	2109.8	1792.3	1442.9	1105.2	62.1	26.9	20.2
36°	3433.4	2976.5	2610.3	2269.2	1995.5	1664.6	1306.9	979.2	53.8	21.9	18.5
37°	3204.9	2811.9	2484.4	2163.4	1862.8	1520.2	1164.0	848.3	47.1	18.5	15.2
38°	2988.2	2652.3	2360.0	2040.9	1708.2	1360.6	1016.2	717.3	40.4	16.8	13.5
39°	2785.0	2497.7	2232.3	1894.8	1548.6	1206.0	873.4	581.2	35.2	15.2	11.7
40°	2601.9	2351.5	2092.9	1731.7	1384.0	1048.1	729.0	433.4	30.2	11.7	10.0
42.5°	2215.5	1950.2	1609.2	1207.7	935.6	608.1	339.2	161.3	21.9	8.4	8.4
45°	1463.0	1125.4	764.2	455.2	307.3	184.8	137.7	97.5	16.8	6.7	6.7
47.5°	488.8	310.8	226.7	162.9	139.4	110.8	89.0	60.4	11.7	5.0	5.0
50°	186.5	151.2	124.3	94.0	84.0	67.1	53.8	35.2	8.4	5.0	5.0
51°	146.1	119.2	97.5	73.9	67.1	53.8	43.7	30.2	6.7	5.0	5.0
52°	112.5	92.3	75.6	57.1	53.8	43.7	36.9	25.2	6.7	3.3	5.0
53°	85.6	70.6	57.1	43.7	41.9	35.2	30.2	20.2	5.0	3.3	5.0
54°	63.8	53.8	45.4	35.2	35.2	30.2	25.2	16.8	5.0	3.3	5.0
55°	48.7	40.4	35.2	26.9	28.5	25.2	21.9	13.5	5.0	3.3	5.0
57.5°	25.2	23.5	20.2	16.8	18.5	16.8	15.2	8.4	5.0	3.3	5.0
60°	15.2	13.5	11.7	10.0	11.7	11.7	11.7	5.0	5.0	3.3	5.0
61°	11.7	10.0	8.4	8.4	10.0	10.0	10.0	5.0	5.0	3.3	5.0
62°	8.4	8.4	6.7	6.7	10.0	8.4	8.4	5.0	5.0	3.3	5.0
63°	6.7	6.7	6.7	5.0	8.4	8.4	8.4	5.0	5.0	3.3	5.0
64°	5.0	5.0	5.0	5.0	6.7	8.4	8.4	3.3	5.0	3.3	5.0
65°	5.0	5.0	3.3	3.3	6.7	6.7	6.7	3.3	5.0	3.3	5.0
66°	3.3	3.3	3.3	3.3	6.7	6.7	6.7	3.3	5.0	3.3	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	5.0	6.7	3.3	5.0	5.0	5.0
75°	1.7	1.7	1.7	1.7	5.0	5.0	6.7	3.3	5.0	5.0	5.0
77.5°	1.7	1.7	1.7	1.7	5.0	5.0	6.7	3.3	5.0	5.0	6.7
80°	1.7	1.7	1.7	1.7	5.0	5.0	6.7	3.3	5.0	5.0	6.7
82.5°	1.7	1.7	1.7	1.7	5.0	5.0	6.7	3.3	5.0	5.0	6.7
85°	1.7	1.7	1.7	1.7	5.0	5.0	6.7	3.3	5.0	5.0	6.7
87.5°	1.7	1.7	1.7	1.7	5.0	5.0	6.7	3.3	5.0	5.0	5.0
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):

	135°	157.5°	180°
0°	157.9	157.9	157.9
2.5°	119.2	114.2	110.8
5°	102.5	97.5	95.8
7.5°	95.8	94.0	95.8
10°	105.8	112.5	121.0
12.5°	141.1	166.3	179.8
15°	233.5	304.0	334.2
17.5°	411.5	468.6	502.3
20°	362.9	330.9	349.4
22.5°	196.5	171.3	176.4
25°	109.2	94.0	95.8
26°	87.3	75.6	75.6
27°	70.6	60.4	60.4
28°	57.1	48.7	48.7
29°	45.4	38.6	38.6
30°	36.9	31.9	31.9
31°	30.2	25.2	25.2
32°	25.2	21.9	20.2
33°	21.9	18.5	16.8
34°	18.5	15.2	13.5
35°	15.2	11.7	11.7
36°	13.5	10.0	10.0
37°	11.7	8.4	8.4
38°	10.0	6.7	6.7
39°	8.4	6.7	5.0
40°	6.7	5.0	3.3
42.5°	5.0	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°	1.7	0.0	0.0
54°	3.3	0.0	0.0
55°	1.7	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	0.0	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: P1191797

CATALOG NUMBER: LDA4A30930D010TE LAR15SP 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

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

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67.5°	3.3	1.7	3.3	3.3	5.0	6.7	6.7	3.3	5.0	3.3	5.0
70°	1.7	1.7	1.7	1.7	5.0	5.0	6.7	3.3	5.0	3.3	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)