

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: P1191725

Luminaire Tested: **LDA4A25935D010TE 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: P1191725
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: LDA4A25935D010TE 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 / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

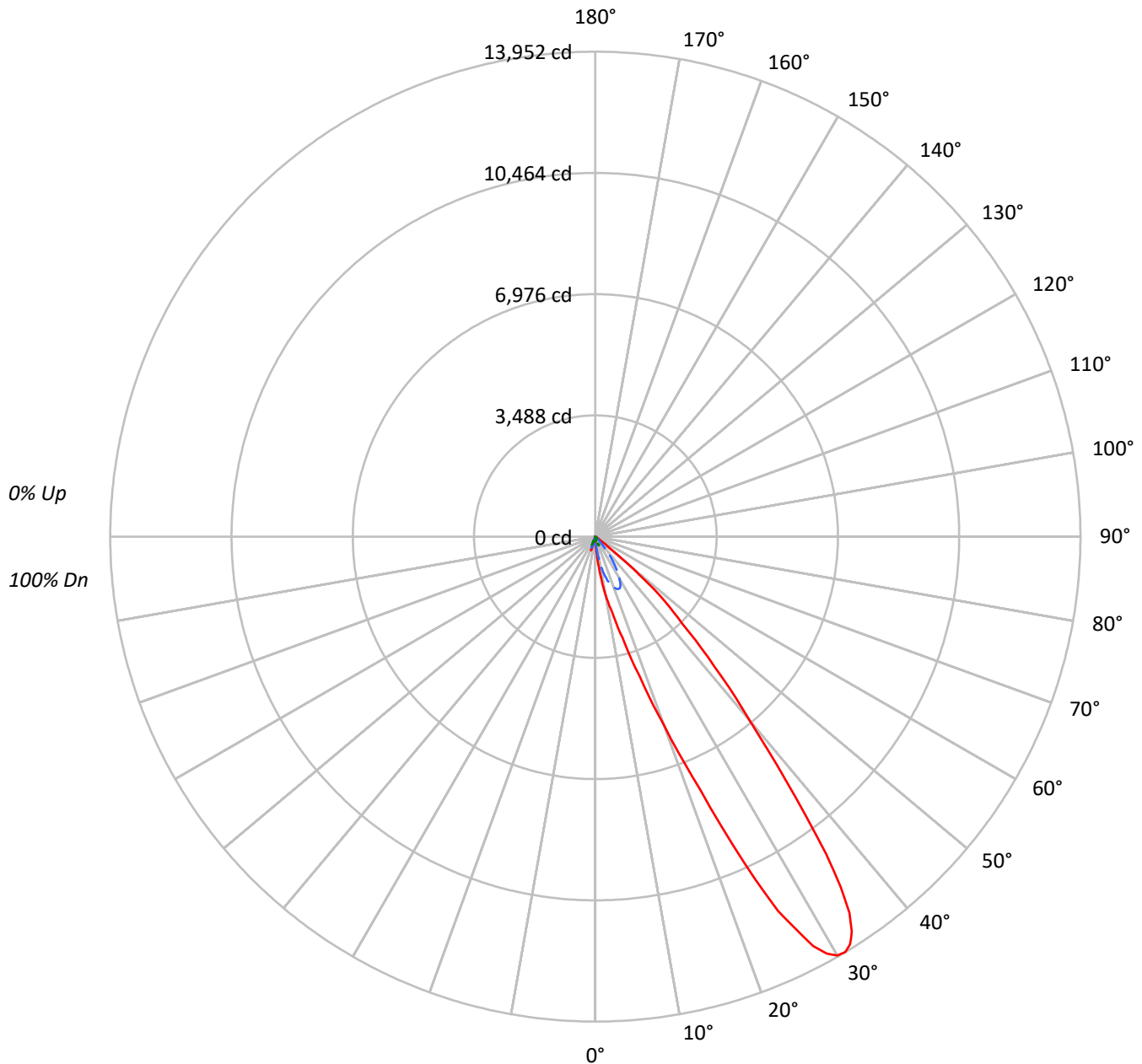
Lumens per Lamp: N/A
Luminaire Lumens: 2250.7 lumens
Efficiency: N/A
Efficacy: 72.8 lumens/watt
Spacing Criteria (0/90/45): 2.52 / 1.04 / 1.28
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 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

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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	98	96	96	94	93	91		
2	106	100	95	91	103	98	94	90	95	91	88	92	89	86	89	86	84	82		
3	99	91	85	80	97	90	84	80	87	82	78	84	80	77	82	79	76	74		
4	92	83	77	71	90	82	76	71	80	74	70	78	73	69	76	72	68	67		
5	86	76	69	64	84	75	68	63	73	67	63	71	66	62	70	65	62	60		
6	80	69	62	57	79	69	62	57	67	61	56	65	60	56	64	59	56	54		
7	75	64	56	51	73	63	56	51	62	55	51	60	55	50	59	54	50	49		
8	70	58	51	46	69	58	51	46	57	50	46	55	50	46	54	49	45	44		
9	65	54	47	42	64	53	46	42	52	46	41	51	45	41	50	45	41	40		
10	61	49	42	38	60	49	42	38	48	42	38	47	41	37	46	41	37	36		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	16195	16195	16195
5°	72643	15217	9856
10°	215027	14003	12600
15°	383882	16588	35500
20°	760399	32632	38132
25°	1479672	21286	10833
30°	1982032	7947	3789
35°	1854614	3358	1476
40°	1111367	1578	451
45°	616740	977	0
50°	226240	787	0
55°	34558	602	0
60°	7573	691	0
65°	2452	817	0
70°	505	1010	0
75°	0	1954	0
80°	0	2912	0
85°	0	5802	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	28.8	1.3
10°-20°	243.1	10.8
20°-30°	725.7	32.2
30°-40°	859.5	38.2
40°-50°	356.6	15.8
50°-60°	27.7	1.2
60°-70°	3.8	0.2
70°-80°	2.9	0.1
80°-90°	2.6	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°	997.7	44.3
0°-40°	1857.2	82.5
0°-60°	2241.5	99.6
0°-90°	2250.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2250.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	131	131	131	131	131	
5°	587	296	123	85	80	93
15°	3006	1270	130	194	278	992
25°	10872	1650	156	91	80	4966
35°	12317	919	22	12	10	7138
45°	3536	81	6	4	0	2882
55°	161	11	3	1	0	235
65°	8	3	3	3	0	10
75°	0	3	4	3	0	0
85°	0	3	4	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°	131.3	131.3	131.3	131.3	131.3	131.3	131.3	131.3	131.3	131.3	131.3
2.5°	227.7	216.5	222.1	212.4	217.9	208.1	201.2	208.1	208.1	202.6	194.2
5°	586.7	583.9	595.1	568.5	575.5	546.2	521.1	528.1	522.5	504.3	472.2
7.5°	1117.5	1106.4	1118.9	1081.2	1082.7	1033.7	996.0	1004.4	979.3	948.6	892.6
10°	1716.8	1701.5	1715.4	1670.7	1662.3	1593.8	1540.8	1549.2	1492.0	1441.7	1356.4
12.5°	2236.5	2235.1	2190.4	2198.7	2182.0	2077.3	2043.7	2046.5	1968.3	1912.3	1810.5
15°	3006.2	3035.5	3043.9	2986.6	2883.2	2693.3	2609.4	2577.3	2450.2	2356.6	2210.0
17.5°	4189.4	4229.8	4091.6	4125.1	3954.7	3657.2	3490.9	3391.8	3152.8	2976.8	2711.4
20°	5793.0	5758.2	5558.4	5533.3	5242.6	4859.9	4510.7	4323.5	3956.1	3699.1	3312.1
22.5°	7863.3	7836.7	7494.5	7342.2	6734.6	6195.3	5742.7	5273.4	4727.2	4383.6	3858.3
25°	10872.2	10750.7	10091.4	9658.3	8589.7	7673.3	6919.0	6189.8	5353.0	4980.1	4312.3
26°	11980.0	11950.6	11263.4	10693.5	9405.5	8268.4	7251.4	6520.8	5598.9	5163.1	4440.8
27°	12644.9	12878.2	12238.5	11593.1	10184.9	8822.9	7643.9	6787.7	5790.3	5291.5	4523.2
28°	13335.1	13485.9	12913.1	12102.9	10809.4	9264.3	7941.6	6967.9	5907.6	5354.4	4551.2
29°	13715.0	13860.3	13328.1	12568.2	11218.7	9550.7	8117.6	7047.5	5950.9	5353.0	4526.0
30°	13916.1	14051.6	13532.0	12794.4	11387.8	9640.2	8155.2	7015.3	5909.0	5288.8	4454.7
31°	13952.5	14065.7	13553.0	12787.4	11323.4	9529.8	8049.1	6882.6	5797.2	5170.0	4347.2
32°	13829.6	13917.5	13396.6	12580.7	11034.3	9250.4	7828.3	6677.3	5626.8	5022.0	4208.9
33°	13541.8	13699.6	13064.0	12163.0	10531.4	8837.0	7515.5	6409.1	5414.5	4829.2	4039.9
34°	13065.4	13166.0	12508.1	11509.2	9860.9	8334.1	7131.2	6097.6	5171.4	4601.5	3848.5
35°	12316.7	12406.1	11678.3	10626.4	9096.8	7767.0	6692.7	5753.9	4899.0	4345.8	3636.2
36°	11280.2	11365.3	10604.0	9645.8	8325.7	7176.0	6230.3	5379.6	4604.3	4072.0	3411.3
37°	10069.0	10143.0	9465.5	8683.3	7568.5	6578.2	5762.3	4999.6	4292.8	3792.7	3197.6
38°	8898.4	8965.4	8417.9	7780.9	6838.0	5994.2	5295.7	4605.6	3971.4	3511.8	2972.7
39°	7842.3	7900.9	7459.5	6934.3	6142.3	5434.0	4830.6	4214.5	3648.8	3231.1	2740.7
40°	6902.2	6952.5	6589.3	6157.7	5510.8	4910.2	4378.0	3835.9	3333.1	2958.7	2524.2
42.5°	5066.6	5077.8	4861.3	4607.0	4104.1	3759.2	3380.6	2989.5	2622.1	2365.0	2088.4
45°	3535.6	3673.9	3532.9	3363.8	3003.4	2786.9	2545.2	2309.1	2096.7	1849.5	1575.8
47.5°	2542.4	2547.9	2464.1	2358.0	2073.0	1925.0	1726.6	1440.2	1229.3	878.7	652.4
50°	1179.0	1113.4	1117.5	1044.9	931.8	740.3	618.8	441.4	352.0	251.5	202.6
51°	701.2	652.4	659.3	607.6	532.2	414.8	352.0	282.1	244.5	190.0	156.4
52°	409.3	392.5	391.1	367.4	313.0	287.8	254.3	212.4	185.8	146.6	121.5
53°	297.5	286.4	286.4	271.0	233.3	216.5	192.8	163.4	142.5	111.8	92.2
54°	222.1	213.7	213.7	204.0	188.5	162.1	145.3	121.5	106.1	86.6	68.5
55°	160.7	155.0	155.0	148.0	136.9	117.3	104.7	88.0	78.3	62.8	50.3
57.5°	67.1	64.2	64.2	61.5	58.7	50.3	47.5	40.5	34.9	30.7	25.1
60°	30.7	29.3	30.7	29.3	26.6	28.0	23.7	20.9	19.6	16.8	13.9
61°	23.7	22.3	22.3	22.3	19.6	19.6	18.2	16.8	15.3	12.5	11.2
62°	18.2	16.8	16.8	16.8	15.3	15.3	13.9	12.5	12.5	9.8	8.4
63°	13.9	12.5	12.5	12.5	11.2	11.2	11.2	9.8	9.8	8.4	7.0
64°	9.8	9.8	9.8	9.8	9.8	8.4	8.4	8.4	7.0	5.6	5.6
65°	8.4	7.0	8.4	7.0	7.0	7.0	7.0	7.0	5.6	4.1	4.1
66°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	4.1	2.8



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CATALOG NUMBER: LDA4A25935D010TE 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	1.4	1.4	1.4	1.4	1.4	1.4	1.4
75°	0.0	0.0	0.0	0.0	0.0	1.4	1.4	1.4	1.4	1.4	1.4
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.4	1.4	1.4	1.4
80°	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.4	1.4	1.4	1.4
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.4	1.4	1.4	1.4
85°	0.0	0.0	0.0	0.0	0.0	1.4	1.4	1.4	1.4	1.4	1.4
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.4	1.4	1.4	1.4
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°	131.3	131.3	131.3	131.3	131.3	131.3	131.3	131.3	131.3	131.3	131.3
2.5°	190.0	195.6	191.4	180.2	185.8	183.0	177.4	173.2	148.0	128.6	109.0
5°	448.4	452.6	428.9	387.0	372.9	350.6	318.5	296.2	167.6	122.9	96.3
7.5°	848.0	820.0	797.7	719.4	685.9	634.2	572.8	529.5	191.4	115.9	89.4
10°	1283.8	1239.1	1192.9	1078.4	1018.3	938.8	850.7	800.4	216.5	111.8	89.4
12.5°	1715.4	1655.3	1571.5	1445.8	1360.6	1253.0	1133.0	1043.5	234.7	114.5	103.4
15°	2089.8	2017.2	1925.0	1782.5	1683.3	1549.2	1392.8	1269.8	243.1	129.9	143.9
17.5°	2497.7	2366.4	2214.1	2032.5	1923.6	1768.6	1592.5	1443.0	243.1	164.8	230.4
20°	2967.0	2726.8	2482.3	2228.1	2074.4	1912.3	1723.8	1563.1	252.9	248.6	317.1
22.5°	3404.3	3073.3	2728.2	2397.1	2183.4	2007.4	1816.0	1631.6	293.4	273.8	211.0
25°	3743.7	3323.3	2916.7	2514.4	2272.8	2077.3	1871.9	1649.8	268.2	156.4	114.5
26°	3831.8	3377.7	2954.5	2528.5	2277.0	2075.8	1866.3	1630.2	224.9	124.3	92.2
27°	3877.8	3395.9	2957.2	2515.8	2260.2	2052.1	1835.6	1589.7	180.2	100.6	75.4
28°	3877.8	3375.0	2928.0	2480.9	2216.9	2007.4	1782.5	1525.5	146.6	82.4	60.1
29°	3838.7	3320.5	2869.3	2427.9	2158.2	1944.6	1709.9	1450.0	124.3	68.5	48.9
30°	3763.3	3240.9	2791.0	2359.4	2082.8	1873.3	1630.2	1371.8	107.5	55.8	39.1
31°	3657.2	3151.4	2694.7	2285.4	2012.9	1807.6	1557.6	1292.2	93.6	44.7	32.1
32°	3530.0	3039.7	2595.5	2208.5	1955.7	1746.1	1482.2	1208.4	81.0	37.7	28.0
33°	3383.4	2914.0	2492.1	2133.1	1899.8	1676.4	1399.8	1117.5	69.9	30.7	23.7
34°	3221.3	2775.7	2386.0	2052.1	1831.4	1588.3	1303.3	1021.2	60.1	26.6	19.6
35°	3045.3	2620.7	2277.0	1969.7	1754.5	1490.5	1200.0	919.2	51.7	22.3	16.8
36°	2855.3	2475.3	2170.8	1887.2	1659.6	1384.4	1086.8	814.4	44.7	18.2	15.3
37°	2665.3	2338.4	2066.0	1799.2	1549.2	1264.2	968.0	705.5	39.1	15.3	12.5
38°	2485.1	2205.7	1962.6	1697.3	1420.7	1131.5	845.1	596.5	33.5	13.9	11.2
39°	2316.1	2077.3	1856.5	1575.8	1288.0	1003.0	726.4	483.3	29.3	12.5	9.8
40°	2163.8	1955.7	1740.6	1440.2	1151.0	871.7	606.3	360.4	25.1	9.8	8.4
42.5°	1842.6	1621.8	1338.3	1004.4	778.1	505.7	282.1	134.1	18.2	7.0	7.0
45°	1216.8	935.9	635.6	378.6	255.6	153.7	114.5	81.0	13.9	5.6	5.6
47.5°	406.5	258.4	188.5	135.5	115.9	92.2	74.0	50.3	9.8	4.1	4.1
50°	155.0	125.7	103.4	78.3	69.9	55.8	44.7	29.3	7.0	4.1	4.1
51°	121.5	99.2	81.0	61.5	55.8	44.7	36.4	25.1	5.6	4.1	4.1
52°	93.6	76.9	62.8	47.5	44.7	36.4	30.7	20.9	5.6	2.8	4.1
53°	71.2	58.7	47.5	36.4	34.9	29.3	25.1	16.8	4.1	2.8	4.1
54°	53.1	44.7	37.7	29.3	29.3	25.1	20.9	13.9	4.1	2.8	4.1
55°	40.5	33.5	29.3	22.3	23.7	20.9	18.2	11.2	4.1	2.8	4.1
57.5°	20.9	19.6	16.8	13.9	15.3	13.9	12.5	7.0	4.1	2.8	4.1
60°	12.5	11.2	9.8	8.4	9.8	9.8	9.8	4.1	4.1	2.8	4.1
61°	9.8	8.4	7.0	7.0	8.4	8.4	8.4	4.1	4.1	2.8	4.1
62°	7.0	7.0	5.6	5.6	8.4	7.0	7.0	4.1	4.1	2.8	4.1
63°	5.6	5.6	5.6	4.1	7.0	7.0	7.0	4.1	4.1	2.8	4.1
64°	4.1	4.1	4.1	4.1	5.6	7.0	7.0	2.8	4.1	2.8	4.1
65°	4.1	4.1	2.8	2.8	5.6	5.6	5.6	2.8	4.1	2.8	4.1
66°	2.8	2.8	2.8	2.8	5.6	5.6	5.6	2.8	4.1	2.8	4.1



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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°	1.4	1.4	1.4	1.4	4.1	4.1	5.6	2.8	4.1	4.1	4.1
75°	1.4	1.4	1.4	1.4	4.1	4.1	5.6	2.8	4.1	4.1	4.1
77.5°	1.4	1.4	1.4	1.4	4.1	4.1	5.6	2.8	4.1	4.1	5.6
80°	1.4	1.4	1.4	1.4	4.1	4.1	5.6	2.8	4.1	4.1	5.6
82.5°	1.4	1.4	1.4	1.4	4.1	4.1	5.6	2.8	4.1	4.1	5.6
85°	1.4	1.4	1.4	1.4	4.1	4.1	5.6	2.8	4.1	4.1	5.6
87.5°	1.4	1.4	1.4	1.4	4.1	4.1	5.6	2.8	4.1	4.1	4.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P1191725

CATALOG NUMBER: LDA4A25935D010TE LAR15SP 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
0°	131.3	131.3	131.3
2.5°	99.2	95.0	92.2
5°	85.2	81.0	79.6
7.5°	79.6	78.3	79.6
10°	88.0	93.6	100.6
12.5°	117.3	138.2	149.5
15°	194.2	252.9	278.0
17.5°	342.2	389.7	417.7
20°	301.7	275.2	290.5
22.5°	163.4	142.5	146.6
25°	90.8	78.3	79.6
26°	72.6	62.8	62.8
27°	58.7	50.3	50.3
28°	47.5	40.5	40.5
29°	37.7	32.1	32.1
30°	30.7	26.6	26.6
31°	25.1	20.9	20.9
32°	20.9	18.2	16.8
33°	18.2	15.3	13.9
34°	15.3	12.5	11.2
35°	12.5	9.8	9.8
36°	11.2	8.4	8.4
37°	9.8	7.0	7.0
38°	8.4	5.6	5.6
39°	7.0	5.6	4.1
40°	5.6	4.1	2.8
42.5°	4.1	2.8	1.4
45°	4.1	1.4	0.0
47.5°	2.8	1.4	0.0
50°	2.8	0.0	0.0
51°	2.8	0.0	0.0
52°	2.8	0.0	0.0
53°	1.4	0.0	0.0
54°	2.8	0.0	0.0
55°	1.4	0.0	0.0
57.5°	2.8	0.0	0.0
60°	2.8	0.0	0.0
61°	2.8	0.0	0.0
62°	2.8	0.0	0.0
63°	2.8	0.0	0.0
64°	2.8	1.4	0.0
65°	2.8	1.4	0.0
66°	2.8	1.4	0.0



TEST NUMBER: P1191725

CATALOG NUMBER: LDA4A25935D010TE LAR15SP 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	2.8	1.4	0.0
75°	2.8	1.4	0.0
77.5°	2.8	1.4	0.0
80°	2.8	1.4	0.0
82.5°	2.8	1.4	0.0
85°	2.8	1.4	0.0
87.5°	2.8	1.4	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°	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	2.8	2.8
70°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	2.8	2.8	1.4	1.4

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67.5°	2.8	1.4	2.8	2.8	4.1	5.6	5.6	2.8	4.1	2.8	4.1
70°	1.4	1.4	1.4	1.4	4.1	4.1	5.6	2.8	4.1	2.8	4.1

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67.5°	2.8	1.4	0.0
70°	2.8	1.4	0.0

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(END OF REPORT)