

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: P1191479

Luminaire Tested: **LDA4A10940D010TE 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: P1191479
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: LDA4A10940D010TE 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

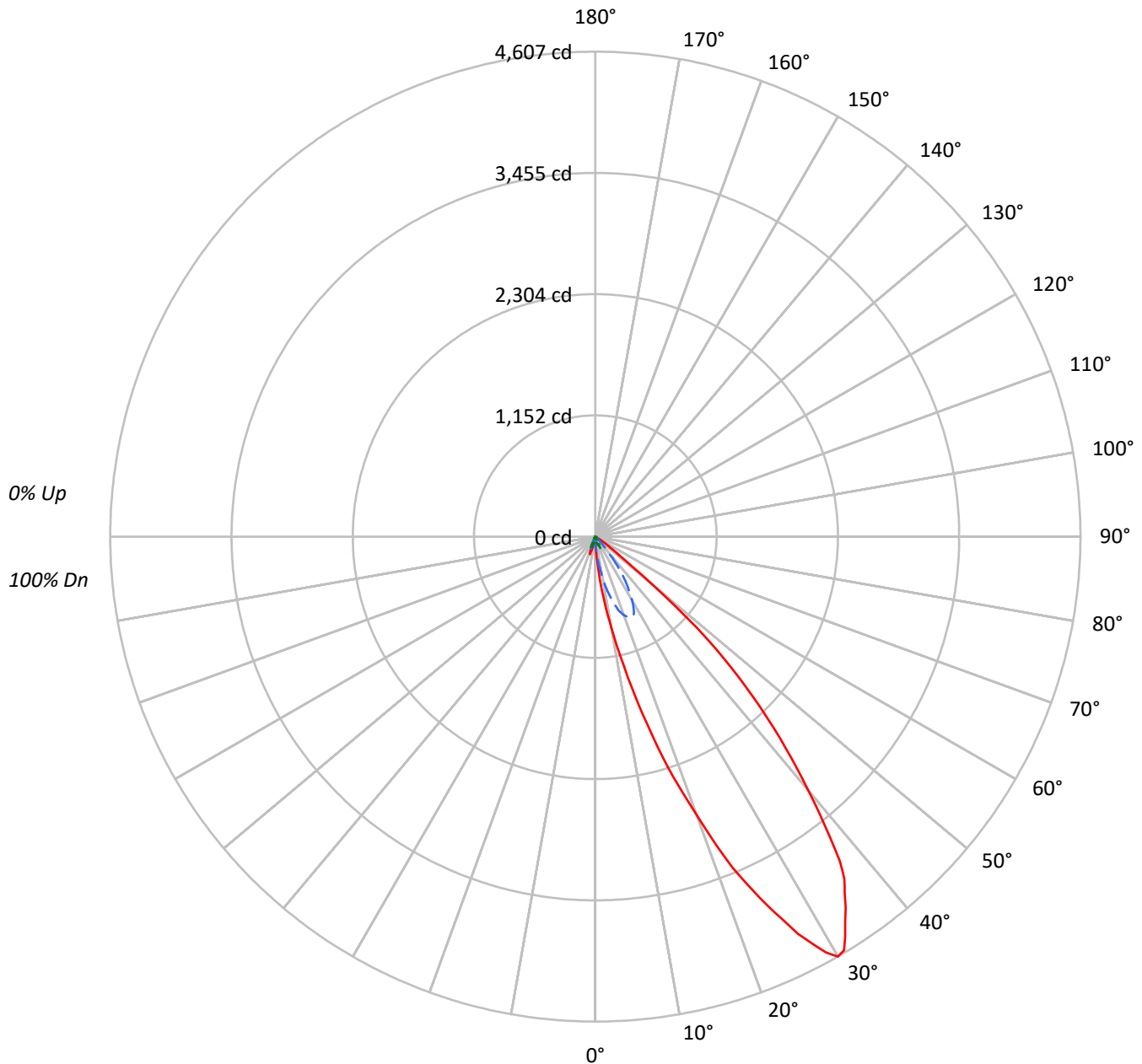
Lumens per Lamp: N/A
Luminaire Lumens: 1067.0 lumens
Efficiency: N/A
Efficacy: 86.1 lumens/watt
Spacing Criteria (0/90/45): 2.56 / 1.01 / 1.3
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 12.4
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°	8721	8721	8721
5°	37900	8234	4990
10°	109279	7402	5423
15°	223929	8185	15643
20°	369423	15200	15856
25°	526246	9704	5308
30°	656148	4259	2079
35°	621733	1942	919
40°	506380	982	290
45°	354700	541	0
50°	132923	345	0
55°	28322	387	0
60°	5403	321	0
65°	1605	525	0
70°	469	649	0
75°	0	858	0
80°	0	1279	0
85°	0	2547	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	14.8	1.4
10°-20°	127.8	12.0
20°-30°	326.4	30.6
30°-40°	378.0	35.4
40°-50°	195.0	18.3
50°-60°	20.1	1.9
60°-70°	2.2	0.2
70°-80°	1.4	0.1
80°-90°	1.2	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°	469.0	44.0
0°-40°	847.1	79.4
0°-60°	1062.3	99.6
0°-90°	1067.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1067.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	71	71	71	71	71	
5°	306	159	66	44	40	48
15°	1754	642	64	85	122	537
25°	3867	838	71	44	39	1796
35°	4129	459	13	7	6	2528
45°	2033	54	3	2	0	1523
55°	132	8	2	1	0	165
65°	6	2	2	1	0	7
75°	0	1	2	2	0	0
85°	0	1	2	2	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°	70.7	70.7	70.7	70.7	70.7	70.7	70.7	70.7	70.7	70.7	70.7
2.5°	121.9	117.7	114.6	115.8	122.5	115.3	115.8	113.4	112.2	110.9	107.9
5°	306.1	293.9	286.0	286.6	268.9	282.3	281.1	270.7	264.0	251.2	243.9
7.5°	574.3	548.1	538.9	536.0	537.8	524.9	519.4	506.1	488.4	465.2	451.8
10°	872.5	856.6	851.1	841.4	840.8	818.3	804.8	787.7	752.4	720.1	696.2
12.5°	1271.2	1222.4	1213.9	1195.7	1190.7	1152.4	1124.3	1099.2	1040.1	997.5	959.6
15°	1753.6	1713.8	1723.0	1667.0	1651.7	1588.9	1536.4	1482.8	1387.1	1321.9	1254.8
17.5°	2301.0	2250.5	2256.6	2186.4	2060.2	2071.8	1995.6	1921.8	1787.1	1699.8	1596.3
20°	2814.4	2778.4	2780.9	2687.6	2644.9	2529.0	2427.3	2339.5	2160.2	2049.2	1912.0
22.5°	3405.2	3311.9	3294.3	3167.4	3092.4	2937.0	2794.9	2678.4	2461.4	2336.4	2168.2
25°	3866.7	3802.8	3754.0	3603.9	3499.8	3297.2	3132.7	2960.1	2699.2	2560.7	2360.8
26°	4040.0	3979.6	3916.8	3755.1	3638.1	3424.1	3244.9	3059.5	2780.2	2632.1	2414.4
27°	4235.6	4136.9	4061.2	3880.2	3753.4	3528.4	3315.6	3140.6	2841.9	2677.8	2448.5
28°	4374.1	4275.2	4175.2	3978.3	3841.1	3605.9	3384.5	3193.7	2877.8	2699.8	2462.5
29°	4516.1	4411.3	4265.5	4050.9	3901.5	3654.0	3424.1	3219.9	2888.2	2698.6	2455.3
30°	4606.9	4501.4	4313.0	4091.8	3933.8	3673.5	3435.0	3214.9	2871.7	2674.1	2428.4
31°	4585.6	4488.7	4301.5	4096.0	3930.8	3661.9	3414.9	3180.2	2830.3	2630.9	2379.6
32°	4478.9	4396.6	4254.6	4067.3	3897.3	3622.3	3368.0	3125.4	2770.5	2580.2	2320.5
33°	4355.1	4286.8	4188.7	4009.4	3838.7	3562.6	3303.3	3057.6	2701.6	2511.3	2249.2
34°	4251.5	4189.9	4099.1	3931.4	3758.8	3482.7	3221.7	2972.3	2622.9	2430.3	2165.1
35°	4129.0	4072.8	3988.7	3826.0	3647.9	3375.3	3119.3	2873.6	2530.3	2333.9	2067.6
36°	4022.2	3933.8	3848.5	3689.9	3512.5	3245.5	2998.5	2757.7	2425.3	2223.6	1957.8
37°	3857.0	3768.6	3677.2	3527.1	3352.1	3096.7	2864.4	2634.0	2305.9	2140.7	1840.7
38°	3610.1	3569.2	3477.7	3335.1	3172.3	2932.7	2717.4	2493.1	2171.1	1980.3	1716.4
39°	3379.6	3346.0	3257.1	3126.5	2976.0	2756.5	2554.6	2334.5	2019.4	1838.9	1585.2
40°	3144.9	3111.4	3027.8	2910.1	2774.7	2573.0	2381.5	2165.6	1860.2	1693.2	1453.5
42.5°	2588.8	2554.0	2536.4	2416.3	2273.0	2099.8	1922.3	1727.3	1467.6	1330.4	1142.6
45°	2033.4	2001.7	1935.2	1885.8	1757.8	1613.8	1469.4	1310.3	1118.9	983.5	807.8
47.5°	1453.5	1438.3	1440.7	1349.3	1227.4	1113.9	994.4	850.5	681.1	510.9	375.0
50°	692.7	696.9	713.9	650.0	558.5	492.0	421.4	330.4	241.5	189.7	147.0
51°	448.7	453.6	468.2	422.5	356.0	310.9	265.8	214.6	171.3	145.7	116.4
52°	303.7	303.7	306.7	279.8	247.0	221.4	195.1	165.2	133.5	114.6	92.1
53°	228.0	227.4	228.6	210.9	188.4	169.5	151.2	129.3	105.5	89.7	71.3
54°	174.4	173.7	175.0	161.5	145.7	131.7	117.7	101.3	81.6	67.1	53.6
55°	131.7	131.7	133.5	123.2	110.9	100.0	89.7	75.7	60.4	48.8	39.0
57.5°	53.0	53.0	54.9	51.2	45.7	41.4	37.8	32.4	26.9	22.5	18.3
60°	21.9	22.5	23.2	21.4	20.1	18.9	17.7	15.8	14.0	11.6	9.8
61°	16.4	16.4	17.1	15.8	15.3	14.0	13.4	12.2	11.0	9.2	7.9
62°	12.2	12.2	12.9	12.2	11.6	11.0	10.3	9.8	8.5	7.3	6.1
63°	9.2	9.2	9.8	9.2	9.2	8.5	7.9	7.3	6.8	5.5	4.8
64°	7.3	7.3	7.3	6.8	6.8	6.8	6.1	6.1	4.8	4.3	3.7
65°	5.5	5.5	5.5	5.5	4.8	4.8	4.8	4.3	4.3	3.1	3.1
66°	4.3	4.3	4.3	3.7	3.7	3.7	3.7	3.7	3.1	2.4	1.8



TEST NUMBER: P1191479

CATALOG NUMBER: LDA4A10940D010TE 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	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
75°	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	0.6	0.6
77.5°	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	0.6	0.6
80°	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	0.6
82.5°	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	0.6
85°	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	0.6
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6
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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CANDELA DISTRIBUTION (continued):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	67.5°	90°	112.5°
0°	70.7	70.7	70.7	70.7	70.7	70.7	70.7	70.7	70.7	70.7	70.7
2.5°	109.2	108.5	102.4	102.4	104.8	101.3	99.4	95.1	81.6	69.5	58.6
5°	241.5	234.8	214.0	207.9	207.2	190.2	180.5	159.1	93.2	66.5	50.6
7.5°	445.7	425.6	390.1	371.3	348.1	334.7	310.9	274.4	106.1	62.2	45.7
10°	659.0	636.5	584.1	550.5	532.9	489.6	450.0	400.0	118.8	59.1	45.1
12.5°	903.6	853.0	803.0	743.2	690.2	651.8	585.9	527.3	127.4	58.6	49.4
15°	1168.2	1104.7	1019.4	939.0	864.0	809.1	720.7	642.0	130.4	64.1	64.6
17.5°	1464.6	1345.6	1222.4	1112.7	1009.7	936.0	826.2	733.4	128.6	78.6	103.0
20°	1742.0	1584.0	1416.9	1264.6	1118.9	1023.1	896.2	795.7	129.3	115.8	139.0
22.5°	1962.1	1770.0	1566.3	1380.4	1195.7	1081.0	942.6	828.6	145.1	123.8	94.5
25°	2124.2	1898.0	1664.5	1450.5	1256.0	1127.4	975.6	838.4	135.4	71.3	53.6
26°	2167.5	1929.1	1682.8	1460.9	1263.3	1127.4	970.6	827.9	117.1	56.7	44.5
27°	2191.9	1943.1	1685.8	1456.0	1254.1	1114.5	953.0	807.3	95.8	47.5	37.8
28°	2194.9	1937.0	1670.7	1435.9	1228.5	1087.1	921.3	775.6	79.2	40.3	31.1
29°	2178.5	1914.4	1641.4	1402.3	1189.6	1046.9	878.0	736.5	67.6	34.8	26.2
30°	2143.7	1874.8	1596.8	1357.2	1139.0	998.1	827.4	693.2	59.1	29.9	21.9
31°	2093.8	1820.6	1548.6	1303.6	1085.9	949.3	779.8	649.4	52.5	25.0	18.3
32°	2029.1	1756.5	1486.5	1245.6	1038.4	903.0	734.1	604.8	47.0	21.4	15.3
33°	1957.1	1684.0	1418.8	1185.2	992.6	855.5	685.9	557.9	42.0	17.7	12.9
34°	1874.2	1604.2	1346.9	1124.8	943.8	803.0	634.1	509.8	36.6	14.6	11.0
35°	1779.7	1515.1	1269.4	1070.1	889.6	746.3	579.8	458.6	32.4	12.9	9.2
36°	1677.3	1422.4	1191.3	1007.3	831.0	687.2	522.5	406.7	28.0	11.0	7.9
37°	1570.0	1326.1	1113.4	936.0	766.4	624.4	463.4	350.5	24.3	9.2	6.8
38°	1456.5	1229.2	1037.7	868.2	698.1	556.6	403.0	289.0	21.4	7.9	6.1
39°	1340.7	1133.4	962.7	793.8	628.0	490.3	345.1	224.4	18.9	6.8	5.5
40°	1227.4	1043.2	883.5	712.8	557.9	424.9	289.0	165.2	16.4	6.1	4.3
42.5°	971.9	801.2	634.1	475.6	389.0	269.5	160.4	86.6	11.6	4.3	3.1
45°	636.0	473.7	342.0	231.7	201.3	114.0	74.4	53.6	8.5	3.1	2.4
47.5°	263.4	192.1	133.5	96.3	78.1	61.0	47.5	34.8	6.1	2.4	2.4
50°	115.8	91.5	72.6	56.7	49.4	39.6	30.4	21.4	3.7	1.8	1.8
51°	92.7	73.8	56.7	45.1	40.3	32.4	25.0	17.1	3.7	1.8	1.8
52°	73.1	57.3	44.5	34.8	32.4	26.2	20.8	14.0	3.1	1.8	1.8
53°	56.0	43.3	33.5	27.4	25.6	21.4	17.1	11.6	2.4	1.8	1.8
54°	41.4	32.9	26.2	21.4	20.8	17.1	14.0	9.8	2.4	1.8	1.8
55°	30.4	25.6	20.1	17.1	16.4	14.0	11.6	7.9	2.4	1.8	1.8
57.5°	15.8	13.4	11.0	9.8	9.8	9.2	7.9	4.8	1.8	1.3	1.8
60°	8.5	7.3	6.1	5.5	6.8	6.1	5.5	3.1	1.8	1.3	1.8
61°	6.8	6.1	4.8	4.3	5.5	4.8	4.8	2.4	1.8	1.8	1.8
62°	5.5	4.8	4.3	3.7	4.8	4.3	4.3	2.4	1.8	1.8	1.8
63°	4.3	3.7	3.1	3.1	4.3	4.3	3.7	1.8	1.8	1.8	1.8
64°	3.1	3.1	2.4	2.4	3.7	3.7	3.1	1.8	1.8	1.8	1.8
65°	2.4	2.4	1.8	1.8	3.1	3.1	3.1	1.8	1.8	1.8	1.8
66°	1.8	1.8	1.8	1.3	2.4	3.1	3.1	1.3	1.8	1.8	1.8



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CATALOG NUMBER: LDA4A10940D010TE 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°	0.6	0.6	0.6	0.6	1.8	2.4	2.4	1.3	1.8	1.8	1.8
75°	0.6	0.6	0.6	0.6	1.8	2.4	2.4	1.3	1.8	1.8	1.8
77.5°	0.6	0.6	0.6	0.6	1.8	2.4	2.4	1.3	1.8	1.8	2.4
80°	0.6	0.6	0.6	0.6	1.8	2.4	2.4	1.3	1.8	1.8	2.4
82.5°	0.6	0.6	0.6	0.6	1.8	2.4	2.4	1.3	1.8	1.8	2.4
85°	0.6	0.6	0.6	0.6	1.8	2.4	2.4	1.3	1.8	1.8	2.4
87.5°	0.6	0.6	0.6	0.6	1.8	2.4	2.4	1.3	1.8	1.8	2.4
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: P1191479

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CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
0°	70.7	70.7	70.7
2.5°	53.0	50.1	49.4
5°	43.9	40.9	40.3
7.5°	40.3	37.8	37.2
10°	41.4	42.0	43.3
12.5°	53.0	58.6	63.4
15°	85.3	107.2	122.5
17.5°	148.8	164.6	175.0
20°	130.4	120.1	120.8
22.5°	73.1	65.9	65.2
25°	44.5	40.3	39.0
26°	37.2	33.5	32.4
27°	30.4	27.4	26.2
28°	25.0	22.5	21.9
29°	21.4	18.3	17.7
30°	17.7	15.3	14.6
31°	14.6	12.9	12.2
32°	12.9	11.0	9.8
33°	10.3	9.2	8.5
34°	9.2	7.3	6.8
35°	7.3	6.1	6.1
36°	6.8	5.5	4.8
37°	5.5	4.3	4.3
38°	4.8	3.7	3.1
39°	4.3	3.1	2.4
40°	3.7	2.4	1.8
42.5°	2.4	1.3	0.6
45°	1.8	0.6	0.0
47.5°	1.3	0.6	0.0
50°	1.3	0.0	0.0
51°	1.3	0.0	0.0
52°	1.3	0.0	0.0
53°	1.3	0.0	0.0
54°	1.3	0.0	0.0
55°	1.3	0.0	0.0
57.5°	1.3	0.0	0.0
60°	1.3	0.0	0.0
61°	1.3	0.0	0.0
62°	1.3	0.0	0.0
63°	1.3	0.6	0.0
64°	1.3	0.6	0.0
65°	1.3	0.6	0.0
66°	1.3	0.6	0.0



TEST NUMBER: P1191479

CATALOG NUMBER: LDA4A10940D010TE LAR25NF 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	1.8	0.6	0.0
75°	1.8	0.6	0.0
77.5°	1.8	0.6	0.0
80°	1.8	0.6	0.0
82.5°	1.8	0.6	0.0
85°	1.8	0.6	0.0
87.5°	1.3	0.6	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°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	1.8	1.3
70°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	0.6	0.6

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67.5°	1.3	1.3	1.3	1.3	2.4	2.4	2.4	1.3	1.8	1.8	1.8
70°	0.6	0.6	0.6	1.3	1.8	2.4	2.4	1.3	1.8	1.8	1.8

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67.5°	1.3	0.6	0.0
70°	1.3	0.6	0.0

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(END OF REPORT)