

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: P1212786

Luminaire Tested: **LDA4A25950D010TE 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: P1212786
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: LDA4A25950D010TE 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

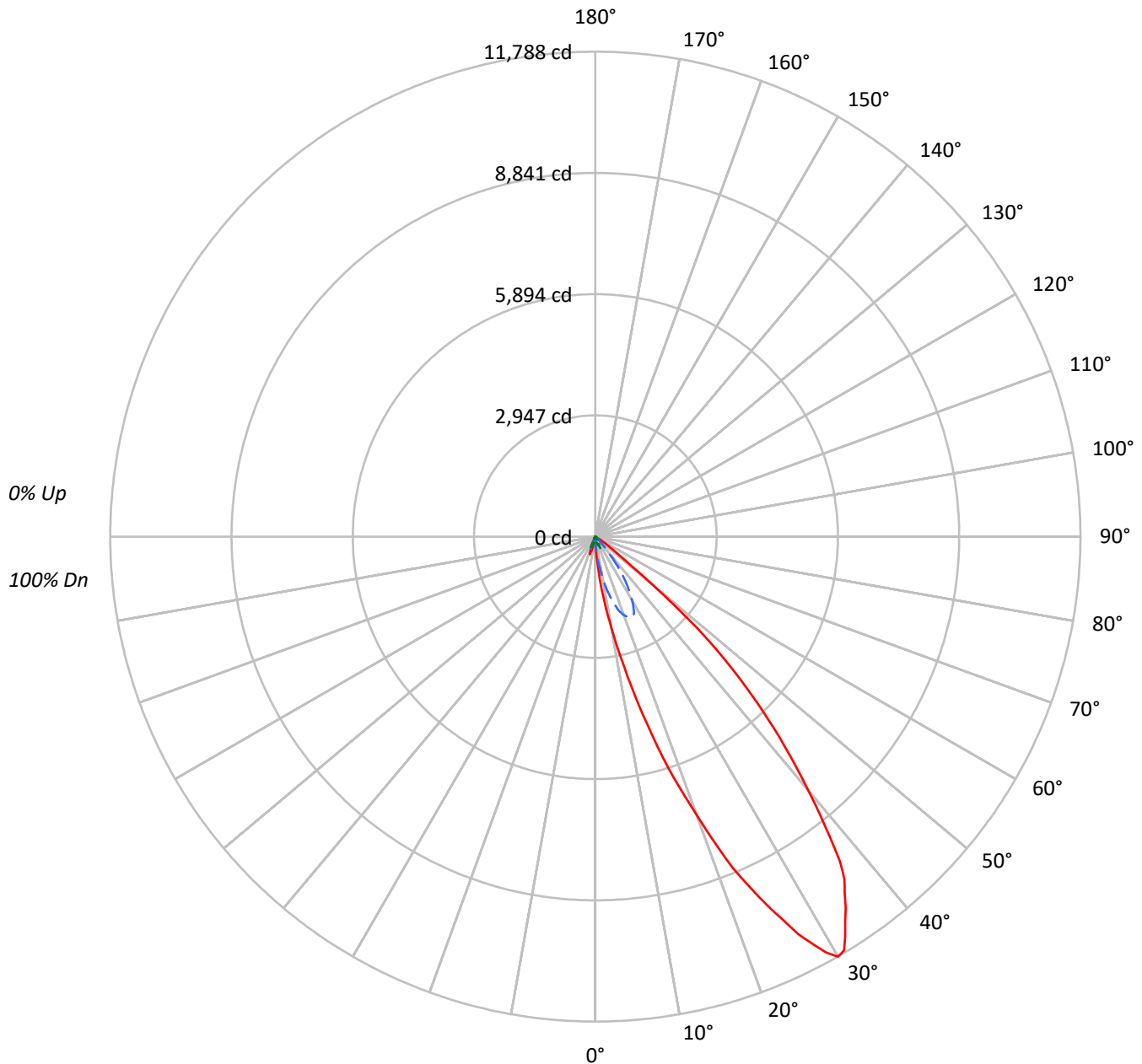
Lumens per Lamp: N/A
Luminaire Lumens: 2730.3 lumens
Efficiency: N/A
Efficacy: 88.4 lumens/watt
Spacing Criteria (0/90/45): 2.56 / 1.01 / 1.3
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 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
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	97	96		96	94	93
2	105	100	95	91		103	98	93	90		95	91	88		91	88	86		89	86	84
3	99	91	85	80		96	89	84	79		87	82	78		84	80	77		82	78	76
4	92	83	76	71		90	82	75	71		79	74	70		77	73	69		75	71	68
5	86	76	69	63		84	75	68	63		73	67	62		71	66	62		69	65	61
6	80	69	62	57		78	68	61	56		67	61	56		65	60	56		64	59	55
7	75	63	56	51		73	63	56	51		61	55	50		60	54	50		59	54	50
8	70	58	51	46		68	58	51	46		56	50	46		55	49	45		54	49	45
9	65	53	46	41		64	53	46	41		52	46	41		51	45	41		50	45	41
10	61	49	42	38		60	49	42	38		48	42	37		47	41	37		46	41	37

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	22338	22338	22338
5°	96973	21049	12766
10°	279617	18950	13878
15°	572963	20917	40046
20°	945268	38906	40560
25°	1346556	24838	13582
30°	1678947	10881	5327
35°	1590848	4939	2349
40°	1295698	2512	757
45°	907579	1361	0
50°	340090	902	0
55°	72492	1011	0
60°	13864	765	0
65°	4086	1372	0
70°	1118	1695	0
75°	0	2240	0
80°	0	3339	0
85°	0	6652	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	37.9	1.4
10°-20°	327.0	12.0
20°-30°	835.2	30.6
30°-40°	967.3	35.4
40°-50°	499.1	18.3
50°-60°	51.5	1.9
60°-70°	5.5	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°	1200.1	44.0
0°-40°	2167.4	79.4
0°-60°	2718.0	99.6
0°-90°	2730.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2730.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	181	181	181	181	181	
5°	783	407	170	112	103	122
15°	4487	1643	164	218	314	1373
25°	9894	2145	182	114	100	4597
35°	10565	1173	33	19	16	6470
45°	5203	137	8	5	0	3896
55°	337	20	5	3	0	422
65°	14	5	5	3	0	18
75°	0	3	5	5	0	0
85°	0	3	5	5	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°	181.1	181.1	181.1	181.1	181.1	181.1	181.1	181.1	181.1	181.1	181.1
2.5°	312.0	301.2	293.3	296.4	313.6	294.9	296.4	290.2	287.1	283.9	276.1
5°	783.2	751.9	731.6	733.2	688.0	722.4	719.2	692.7	675.5	642.8	624.0
7.5°	1469.6	1402.5	1379.1	1371.2	1376.0	1343.3	1329.2	1294.9	1249.6	1190.4	1156.1
10°	2232.5	2191.9	2177.9	2153.0	2151.4	2093.6	2059.4	2015.6	1925.2	1842.5	1781.6
12.5°	3252.8	3128.0	3106.2	3059.4	3046.9	2948.6	2876.8	2812.9	2661.6	2552.3	2455.6
15°	4486.9	4385.5	4408.9	4265.4	4226.2	4065.7	3931.5	3794.1	3549.2	3382.3	3210.7
17.5°	5887.9	5758.4	5774.0	5594.5	5271.6	5301.2	5106.3	4917.4	4572.7	4349.6	4084.3
20°	7201.4	7109.3	7115.6	6876.9	6767.7	6471.3	6210.7	5986.1	5527.4	5243.5	4892.5
22.5°	8713.2	8474.4	8429.3	8104.7	7912.8	7514.9	7151.5	6853.5	6298.1	5978.3	5547.8
25°	9894.1	9730.3	9605.4	9221.7	8955.0	8437.1	8015.8	7574.3	6906.6	6552.4	6040.6
26°	10337.3	10182.7	10022.1	9608.7	9309.1	8761.5	8302.9	7828.6	7114.1	6734.9	6178.0
27°	10837.9	10585.3	10391.8	9928.5	9604.0	9028.3	8483.8	8036.1	7271.6	6851.9	6265.4
28°	11192.2	10939.4	10683.6	10179.7	9828.6	9226.5	8660.1	8171.8	7363.6	6908.1	6301.3
29°	11555.8	11287.3	10914.5	10365.4	9983.1	9349.6	8761.5	8238.9	7390.2	6905.0	6282.5
30°	11788.1	11518.2	11036.1	10469.8	10065.7	9399.5	8789.6	8226.4	7348.1	6842.7	6213.9
31°	11733.6	11485.4	11006.5	10480.8	10057.9	9370.0	8738.1	8137.5	7242.0	6731.8	6089.1
32°	11460.5	11249.8	10886.4	10407.5	9972.1	9268.6	8618.0	7997.0	7089.1	6602.3	5937.8
33°	11143.8	10969.1	10717.8	10259.3	9822.4	9115.6	8452.6	7823.9	6912.9	6426.1	5755.2
34°	10878.6	10721.0	10488.5	10059.6	9618.0	8911.3	8243.6	7605.4	6711.5	6218.6	5540.0
35°	10565.0	10421.5	10206.1	9789.6	9334.1	8636.8	7981.5	7352.8	6474.4	5972.1	5290.4
36°	10291.9	10065.7	9847.4	9441.7	8987.7	8304.4	7672.6	7056.4	6206.1	5689.7	5009.5
37°	9869.2	9643.0	9409.0	9025.2	8577.4	7923.8	7329.3	6739.6	5900.3	5477.5	4710.0
38°	9237.4	9132.9	8898.9	8533.7	8117.2	7504.1	6953.3	6379.3	5555.5	5067.2	4391.7
39°	8647.6	8561.8	8334.0	8000.2	7614.9	7053.2	6536.8	5973.7	5167.0	4705.3	4056.2
40°	8047.0	7961.2	7747.5	7446.4	7100.0	6583.6	6093.8	5541.4	4759.9	4332.3	3719.2
42.5°	6624.2	6535.3	6490.0	6182.6	5816.1	5373.0	4919.0	4419.8	3755.1	3404.1	2923.6
45°	5202.9	5121.8	4951.8	4825.4	4497.8	4129.6	3759.9	3352.6	2862.8	2516.4	2067.2
47.5°	3719.2	3680.2	3686.5	3452.5	3140.5	2850.3	2544.6	2176.3	1742.6	1307.3	959.4
50°	1772.3	1783.2	1826.9	1663.1	1429.1	1259.0	1078.1	845.5	617.8	485.2	376.0
51°	1148.3	1160.7	1198.2	1081.2	911.1	795.6	680.2	549.2	438.4	372.9	298.0
52°	777.0	777.0	784.8	716.0	631.8	566.3	499.2	422.9	341.6	293.3	235.6
53°	583.4	581.9	585.1	539.8	482.0	433.7	387.0	330.8	269.9	229.3	182.5
54°	446.2	444.7	447.7	413.4	372.9	337.1	301.2	259.1	209.1	171.6	137.3
55°	337.1	337.1	341.6	315.1	283.9	255.8	229.3	193.4	154.4	124.8	99.8
57.5°	135.7	135.7	140.4	131.1	117.1	106.1	96.7	82.7	68.6	57.7	46.8
60°	56.2	57.7	59.3	54.6	51.5	48.4	45.2	40.6	35.9	29.6	24.9
61°	42.1	42.1	43.7	40.6	39.1	35.9	34.3	31.2	28.1	23.4	20.3
62°	31.2	31.2	32.8	31.2	29.6	28.1	26.5	24.9	21.8	18.7	15.6
63°	23.4	23.4	24.9	23.4	23.4	21.8	20.3	18.7	17.2	14.0	12.5
64°	18.7	18.7	18.7	17.2	17.2	17.2	15.6	15.6	12.5	10.8	9.4
65°	14.0	14.0	14.0	14.0	12.5	12.5	12.5	10.8	10.8	7.8	7.8
66°	10.8	10.8	10.8	9.4	9.4	9.4	9.4	9.4	7.8	6.2	4.7



TEST NUMBER: P1212786

CATALOG NUMBER: LDA4A25950D010TE 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	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
75°	0.0	0.0	0.0	0.0	1.6	1.6	1.6	1.6	1.6	1.6	1.6
77.5°	0.0	0.0	0.0	0.0	1.6	1.6	1.6	1.6	1.6	1.6	1.6
80°	0.0	0.0	0.0	0.0	0.0	1.6	1.6	1.6	1.6	1.6	1.6
82.5°	0.0	0.0	0.0	0.0	0.0	1.6	1.6	1.6	1.6	1.6	1.6
85°	0.0	0.0	0.0	0.0	0.0	1.6	1.6	1.6	1.6	1.6	1.6
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.6	1.6	1.6	1.6
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°	181.1	181.1	181.1	181.1	181.1	181.1	181.1	181.1	181.1	181.1	181.1
2.5°	279.2	277.7	262.1	262.1	268.3	259.1	254.3	243.4	209.1	177.8	149.8
5°	617.8	600.7	547.6	532.0	530.4	486.8	461.8	407.2	238.7	170.0	129.5
7.5°	1140.5	1089.0	998.5	950.1	890.9	856.5	795.6	702.0	271.4	159.1	117.1
10°	1686.5	1628.7	1494.6	1408.8	1363.4	1252.8	1151.3	1023.4	304.2	151.3	115.4
12.5°	2312.0	2182.5	2054.6	1901.7	1766.0	1667.7	1499.3	1349.4	326.0	149.8	126.4
15°	2989.2	2826.9	2608.5	2402.5	2210.6	2070.2	1844.0	1642.8	333.8	163.8	165.4
17.5°	3747.4	3443.1	3128.0	2847.2	2583.6	2394.8	2113.9	1876.8	329.2	201.2	263.6
20°	4457.2	4053.2	3625.8	3235.6	2862.8	2617.8	2293.4	2035.9	330.8	296.4	355.7
22.5°	5020.4	4529.0	4008.0	3532.0	3059.4	2766.0	2411.9	2120.1	371.3	316.8	241.8
25°	5435.4	4856.6	4259.1	3711.6	3213.7	2884.6	2496.1	2145.2	346.3	182.5	137.3
26°	5546.2	4936.3	4305.9	3738.1	3232.5	2884.6	2483.6	2118.6	299.5	145.2	113.9
27°	5608.5	4972.0	4313.7	3725.6	3209.1	2851.8	2438.4	2065.6	245.0	121.7	96.7
28°	5616.4	4956.4	4274.6	3674.0	3143.6	2781.7	2357.4	1984.4	202.9	103.1	79.6
29°	5574.3	4898.7	4199.8	3588.2	3043.7	2678.7	2246.5	1884.6	173.2	89.0	67.2
30°	5485.3	4797.3	4086.0	3472.8	2914.3	2553.8	2117.1	1773.8	151.3	76.4	56.2
31°	5357.4	4658.5	3962.6	3335.5	2778.6	2429.1	1995.4	1661.6	134.2	64.0	46.8
32°	5192.1	4494.7	3803.6	3187.3	2656.9	2310.5	1878.3	1547.6	120.1	54.6	39.1
33°	5007.9	4309.0	3630.3	3032.8	2539.8	2188.8	1755.1	1427.4	107.6	45.2	32.8
34°	4795.8	4104.6	3446.2	2878.4	2415.1	2054.6	1622.5	1304.3	93.6	37.4	28.1
35°	4554.0	3876.8	3248.1	2737.9	2276.1	1909.5	1483.7	1173.2	82.7	32.8	23.4
36°	4291.9	3639.8	3048.4	2577.3	2126.4	1758.2	1337.0	1040.6	71.8	28.1	20.3
37°	4017.3	3393.2	2848.8	2394.8	1961.0	1597.5	1185.6	897.1	62.4	23.4	17.2
38°	3727.0	3145.2	2655.3	2221.6	1786.3	1424.4	1031.3	739.4	54.6	20.3	15.6
39°	3430.6	2900.2	2463.4	2031.3	1606.9	1254.3	883.1	574.1	48.4	17.2	14.0
40°	3140.5	2669.4	2260.5	1823.7	1427.4	1087.3	739.4	422.9	42.1	15.6	10.8
42.5°	2486.8	2049.9	1622.5	1216.9	995.3	689.5	410.3	221.5	29.6	10.8	7.8
45°	1627.2	1212.2	875.3	592.9	514.9	291.7	190.3	137.3	21.8	7.8	6.2
47.5°	673.9	491.4	341.6	246.5	199.7	156.0	121.7	89.0	15.6	6.2	6.2
50°	296.4	234.0	185.6	145.2	126.4	101.4	78.0	54.6	9.4	4.7	4.7
51°	237.1	188.8	145.2	115.4	103.1	82.7	64.0	43.7	9.4	4.7	4.7
52°	187.2	146.6	113.9	89.0	82.7	67.2	53.1	35.9	7.8	4.7	4.7
53°	143.5	110.8	85.8	70.2	65.5	54.6	43.7	29.6	6.2	4.7	4.7
54°	106.1	84.2	67.2	54.6	53.1	43.7	35.9	24.9	6.2	4.7	4.7
55°	78.0	65.5	51.5	43.7	42.1	35.9	29.6	20.3	6.2	4.7	4.7
57.5°	40.6	34.3	28.1	24.9	24.9	23.4	20.3	12.5	4.7	3.1	4.7
60°	21.8	18.7	15.6	14.0	17.2	15.6	14.0	7.8	4.7	3.1	4.7
61°	17.2	15.6	12.5	10.8	14.0	12.5	12.5	6.2	4.7	4.7	4.7
62°	14.0	12.5	10.8	9.4	12.5	10.8	10.8	6.2	4.7	4.7	4.7
63°	10.8	9.4	7.8	7.8	10.8	10.8	9.4	4.7	4.7	4.7	4.7
64°	7.8	7.8	6.2	6.2	9.4	9.4	7.8	4.7	4.7	4.7	4.7
65°	6.2	6.2	4.7	4.7	7.8	7.8	7.8	4.7	4.7	4.7	4.7
66°	4.7	4.7	4.7	3.1	6.2	7.8	7.8	3.1	4.7	4.7	4.7



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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°	1.6	1.6	1.6	1.6	4.7	6.2	6.2	3.1	4.7	4.7	4.7
75°	1.6	1.6	1.6	1.6	4.7	6.2	6.2	3.1	4.7	4.7	4.7
77.5°	1.6	1.6	1.6	1.6	4.7	6.2	6.2	3.1	4.7	4.7	6.2
80°	1.6	1.6	1.6	1.6	4.7	6.2	6.2	3.1	4.7	4.7	6.2
82.5°	1.6	1.6	1.6	1.6	4.7	6.2	6.2	3.1	4.7	4.7	6.2
85°	1.6	1.6	1.6	1.6	4.7	6.2	6.2	3.1	4.7	4.7	6.2
87.5°	1.6	1.6	1.6	1.6	4.7	6.2	6.2	3.1	4.7	4.7	6.2
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°	181.1	181.1	181.1
2.5°	135.7	127.9	126.4
5°	112.3	104.5	103.1
7.5°	103.1	96.7	95.2
10°	106.1	107.6	110.8
12.5°	135.7	149.8	162.2
15°	218.4	274.6	313.6
17.5°	380.7	421.2	447.7
20°	333.8	307.3	309.0
22.5°	187.2	168.5	167.0
25°	113.9	103.1	99.8
26°	95.2	85.8	82.7
27°	78.0	70.2	67.2
28°	64.0	57.7	56.2
29°	54.6	46.8	45.2
30°	45.2	39.1	37.4
31°	37.4	32.8	31.2
32°	32.8	28.1	24.9
33°	26.5	23.4	21.8
34°	23.4	18.7	17.2
35°	18.7	15.6	15.6
36°	17.2	14.0	12.5
37°	14.0	10.8	10.8
38°	12.5	9.4	7.8
39°	10.8	7.8	6.2
40°	9.4	6.2	4.7
42.5°	6.2	3.1	1.6
45°	4.7	1.6	0.0
47.5°	3.1	1.6	0.0
50°	3.1	0.0	0.0
51°	3.1	0.0	0.0
52°	3.1	0.0	0.0
53°	3.1	0.0	0.0
54°	3.1	0.0	0.0
55°	3.1	0.0	0.0
57.5°	3.1	0.0	0.0
60°	3.1	0.0	0.0
61°	3.1	0.0	0.0
62°	3.1	0.0	0.0
63°	3.1	1.6	0.0
64°	3.1	1.6	0.0
65°	3.1	1.6	0.0
66°	3.1	1.6	0.0



TEST NUMBER: P1212786

CATALOG NUMBER: LDA4A25950D010TE LAR25NF 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	4.7	1.6	0.0
75°	4.7	1.6	0.0
77.5°	4.7	1.6	0.0
80°	4.7	1.6	0.0
82.5°	4.7	1.6	0.0
85°	4.7	1.6	0.0
87.5°	3.1	1.6	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

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— 0°-180° - - 45°-225° - - - 90°-270°

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67.5°	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	4.7	3.1
70°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	1.6	1.6

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67.5°	3.1	3.1	3.1	3.1	6.2	6.2	6.2	3.1	4.7	4.7	4.7
70°	1.6	1.6	1.6	3.1	4.7	6.2	6.2	3.1	4.7	4.7	4.7

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67.5°	3.1	1.6	0.0
70°	3.1	1.6	0.0

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(END OF REPORT)