

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: P1191695

Luminaire Tested: **LDA4A25927D010TE 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: P1191695
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: LDA4A25927D010TE 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 / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

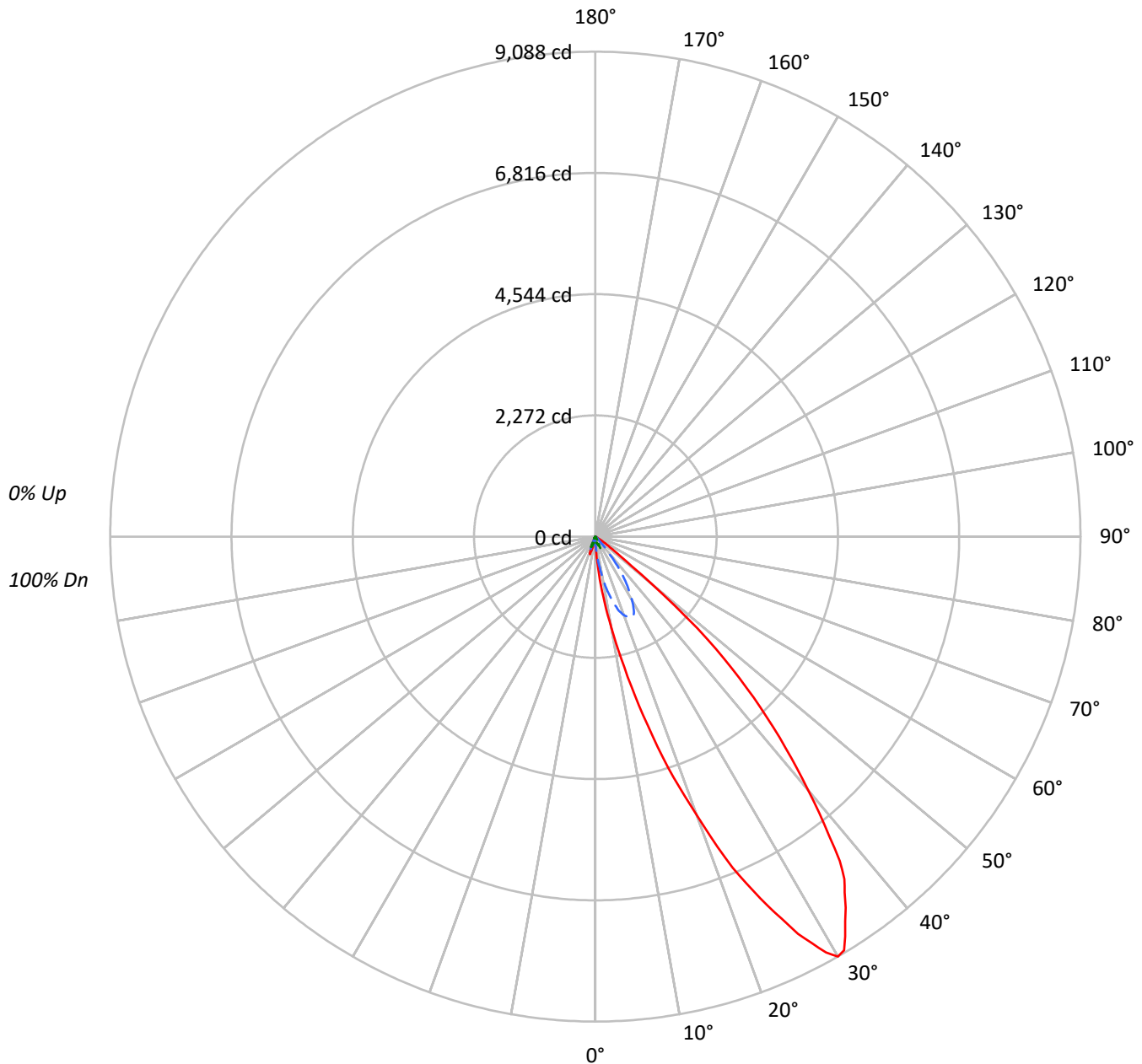
Lumens per Lamp: N/A
Luminaire Lumens: 2104.8 lumens
Efficiency: N/A
Efficacy: 68.1 lumens/watt
Spacing Criteria (0/90/45): 2.56 / 1.01 / 1.3
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 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
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°	17219	17219	17219
5°	74761	16232	9831
10°	215565	14616	10684
15°	441716	16128	30877
20°	728739	29993	31267
25°	1038092	19149	10479
30°	1294336	8389	4102
35°	1226421	3810	1807
40°	998881	1932	580
45°	699684	1047	0
50°	262182	691	0
55°	55869	774	0
60°	10682	592	0
65°	3152	1051	0
70°	866	1298	0
75°	0	1716	0
80°	0	2557	0
85°	0	5095	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.2	1.4
10°-20°	252.1	12.0
20°-30°	643.9	30.6
30°-40°	745.7	35.4
40°-50°	384.7	18.3
50°-60°	39.7	1.9
60°-70°	4.3	0.2
70°-80°	2.7	0.1
80°-90°	2.5	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°	925.2	44.0
0°-40°	1670.9	79.4
0°-60°	2095.4	99.6
0°-90°	2104.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2104.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	140	140	140	140	140	
5°	604	314	131	87	79	94
15°	3459	1266	126	168	242	1059
25°	7628	1654	141	88	77	3544
35°	8145	904	25	14	12	4987
45°	4011	106	6	4	0	3004
55°	260	16	4	2	0	325
65°	11	4	4	2	0	14
75°	0	2	4	4	0	0
85°	0	2	4	4	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°	139.6	139.6	139.6	139.6	139.6	139.6	139.6	139.6	139.6	139.6	139.6
2.5°	240.6	232.1	226.1	228.5	241.8	227.3	228.5	223.7	221.3	218.9	212.9
5°	603.8	579.8	564.1	565.3	530.4	556.9	554.5	534.0	520.8	495.5	481.1
7.5°	1133.0	1081.2	1063.2	1057.2	1060.8	1035.5	1024.8	998.3	963.4	917.6	891.2
10°	1721.1	1689.8	1679.0	1659.7	1658.5	1614.1	1587.6	1553.9	1484.1	1420.4	1373.5
12.5°	2507.7	2411.4	2394.6	2358.5	2348.9	2273.1	2217.8	2168.5	2051.8	1967.6	1893.1
15°	3459.1	3380.8	3398.9	3288.3	3258.1	3134.2	3030.8	2925.0	2736.2	2607.5	2475.2
17.5°	4539.0	4439.2	4451.3	4312.9	4064.0	4086.8	3936.5	3790.9	3525.1	3353.1	3148.7
20°	5551.8	5480.8	5485.6	5301.5	5217.4	4988.9	4788.1	4614.9	4261.2	4042.3	3771.7
22.5°	6717.2	6533.1	6498.3	6248.1	6100.2	5793.4	5513.2	5283.6	4855.3	4608.8	4276.9
25°	7627.6	7501.3	7405.1	7109.3	6903.6	6504.2	6179.5	5839.1	5324.4	5051.4	4656.9
26°	7969.2	7850.1	7726.2	7407.5	7176.6	6754.4	6400.8	6035.2	5484.4	5192.1	4762.8
27°	8355.2	8160.5	8011.3	7654.1	7403.9	6960.1	6540.4	6195.2	5605.9	5282.4	4830.1
28°	8628.3	8433.5	8236.2	7847.7	7577.1	7112.8	6676.2	6299.8	5676.8	5325.6	4857.7
29°	8908.5	8701.7	8414.2	7990.9	7696.2	7207.9	6754.4	6351.5	5697.2	5323.2	4843.3
30°	9087.7	8879.7	8508.0	8071.4	7759.9	7246.3	6776.1	6341.9	5664.8	5275.1	4790.4
31°	9045.7	8854.4	8485.2	8079.8	7753.9	7223.6	6736.4	6273.4	5583.0	5189.7	4694.2
32°	8835.1	8672.7	8392.5	8023.3	7687.7	7145.3	6643.8	6165.2	5465.1	5089.9	4577.5
33°	8591.0	8456.3	8262.7	7909.0	7572.3	7027.5	6516.3	6031.6	5329.3	4953.9	4436.8
34°	8386.5	8265.1	8085.9	7755.1	7414.7	6869.9	6355.1	5863.2	5174.0	4794.0	4270.9
35°	8144.8	8034.1	7868.2	7547.1	7195.8	6658.3	6153.1	5668.4	4991.3	4604.0	4078.4
36°	7934.3	7759.9	7591.5	7278.8	6928.9	6402.0	5914.9	5439.9	4784.4	4386.3	3861.9
37°	7608.4	7434.0	7253.6	6957.7	6612.6	6108.6	5650.4	5195.7	4548.7	4222.8	3631.0
38°	7121.2	7040.7	6860.3	6578.8	6257.7	5785.0	5360.5	4917.9	4282.9	3906.4	3385.7
39°	6666.7	6600.5	6424.9	6167.6	5870.5	5437.5	5039.4	4605.2	3983.4	3627.3	3127.0
40°	6203.6	6137.4	5972.7	5740.5	5473.5	5075.4	4697.8	4272.1	3669.5	3340.0	2867.3
42.5°	5106.8	5038.2	5003.3	4766.4	4483.7	4142.1	3792.1	3407.2	2895.0	2624.4	2253.9
45°	4011.1	3948.5	3817.4	3720.0	3467.4	3183.5	2898.6	2584.6	2207.0	1940.0	1593.6
47.5°	2867.3	2837.2	2842.0	2661.6	2421.0	2197.3	1961.7	1677.8	1343.5	1007.9	739.7
50°	1366.3	1374.7	1408.4	1282.1	1101.7	970.5	831.1	651.8	476.2	374.0	289.9
51°	885.2	894.8	923.7	833.5	702.4	613.4	524.3	423.3	338.0	287.5	229.7
52°	598.9	598.9	605.0	552.0	487.1	436.6	384.9	325.9	263.4	226.1	181.6
53°	449.8	448.6	451.0	416.1	371.6	334.4	298.3	254.9	208.0	176.8	140.7
54°	344.0	342.8	345.2	318.7	287.5	259.8	232.1	199.6	161.2	132.3	105.8
55°	259.8	259.8	263.4	243.0	218.9	197.2	176.8	149.1	119.1	96.2	77.0
57.5°	104.6	104.6	108.2	101.0	90.2	81.7	74.6	63.8	52.9	44.5	36.0
60°	43.3	44.5	45.7	42.1	39.7	37.3	34.8	31.2	27.6	22.9	19.3
61°	32.4	32.4	33.6	31.2	30.0	27.6	26.5	24.1	21.7	18.1	15.7
62°	24.1	24.1	25.3	24.1	22.9	21.7	20.5	19.3	16.9	14.5	12.0
63°	18.1	18.1	19.3	18.1	18.1	16.9	15.7	14.5	13.3	10.8	9.6
64°	14.5	14.5	14.5	13.3	13.3	13.3	12.0	12.0	9.6	8.4	7.2
65°	10.8	10.8	10.8	10.8	9.6	9.6	9.6	8.4	8.4	6.0	6.0
66°	8.4	8.4	8.4	7.2	7.2	7.2	7.2	7.2	6.0	4.8	3.6



TEST NUMBER: P1191695

CATALOG NUMBER: LDA4A25927D010TE 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	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
75°	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2
77.5°	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2
80°	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2	1.2	1.2
82.5°	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2	1.2	1.2
85°	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2	1.2	1.2
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2	1.2
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):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	67.5°	90°	112.5°
0°	139.6	139.6	139.6	139.6	139.6	139.6	139.6	139.6	139.6	139.6	139.6
2.5°	215.3	214.1	202.0	202.0	206.8	199.6	196.0	187.7	161.2	137.2	115.5
5°	476.2	463.1	422.1	410.2	409.0	375.2	356.0	313.9	184.0	131.1	99.8
7.5°	879.2	839.5	769.7	732.5	686.8	660.3	613.4	541.2	209.3	122.7	90.2
10°	1300.2	1255.6	1152.2	1086.0	1051.2	965.8	887.6	789.0	234.6	116.7	89.0
12.5°	1782.4	1682.6	1583.9	1466.2	1361.4	1285.7	1155.8	1040.3	251.3	115.5	97.4
15°	2304.4	2179.4	2011.0	1852.2	1704.2	1596.0	1421.6	1266.4	257.3	126.3	127.5
17.5°	2888.9	2654.4	2411.4	2194.9	1991.7	1846.2	1629.7	1446.9	253.7	155.1	203.2
20°	3436.2	3124.7	2795.2	2494.4	2207.0	2018.2	1768.0	1569.6	254.9	228.5	274.2
22.5°	3870.3	3491.5	3089.8	2723.0	2358.5	2132.4	1859.4	1634.4	286.3	244.2	186.5
25°	4190.2	3744.0	3283.4	2861.2	2477.6	2223.8	1924.3	1653.7	267.0	140.7	105.8
26°	4275.7	3805.4	3319.5	2881.7	2492.0	2223.8	1914.7	1633.2	230.9	111.9	87.8
27°	4323.8	3833.1	3325.5	2872.1	2474.0	2198.5	1879.8	1592.4	188.9	93.8	74.6
28°	4329.8	3821.0	3295.4	2832.4	2423.4	2144.4	1817.3	1529.8	156.3	79.4	61.3
29°	4297.3	3776.5	3237.8	2766.2	2346.5	2065.1	1731.9	1452.9	133.5	68.6	51.7
30°	4228.8	3698.3	3149.9	2677.3	2246.6	1968.8	1632.0	1367.5	116.7	58.9	43.3
31°	4130.1	3591.3	3054.9	2571.3	2142.0	1872.6	1538.3	1280.9	103.4	49.3	36.0
32°	4002.7	3465.0	2932.2	2457.2	2048.2	1781.2	1448.1	1193.0	92.6	42.1	30.0
33°	3860.7	3321.9	2798.7	2338.1	1958.1	1687.5	1353.1	1100.5	82.9	34.8	25.3
34°	3697.1	3164.4	2656.8	2219.0	1861.8	1583.9	1250.8	1005.5	72.2	28.8	21.7
35°	3510.8	2988.7	2504.1	2110.8	1754.7	1472.1	1143.7	904.5	63.8	25.3	18.1
36°	3308.6	2805.9	2350.0	1986.9	1639.3	1355.5	1030.7	802.3	55.3	21.7	15.7
37°	3097.0	2615.9	2196.1	1846.2	1511.8	1231.6	914.0	691.5	48.1	18.1	13.3
38°	2873.3	2424.7	2047.0	1712.7	1377.1	1098.1	795.0	570.1	42.1	15.7	12.0
39°	2644.7	2235.9	1899.1	1566.0	1238.8	967.0	680.8	442.6	37.3	13.3	10.8
40°	2421.0	2057.9	1742.8	1406.0	1100.5	838.3	570.1	325.9	32.4	12.0	8.4
42.5°	1917.1	1580.3	1250.8	938.1	767.3	531.6	316.3	170.8	22.9	8.4	6.0
45°	1254.4	934.5	674.7	457.1	396.9	224.9	146.7	105.8	16.9	6.0	4.8
47.5°	519.6	378.8	263.4	190.1	153.9	120.3	93.8	68.6	12.0	4.8	4.8
50°	228.5	180.4	143.1	111.9	97.4	78.2	60.1	42.1	7.2	3.6	3.6
51°	182.8	145.5	111.9	89.0	79.4	63.8	49.3	33.6	7.2	3.6	3.6
52°	144.3	113.1	87.8	68.6	63.8	51.7	40.9	27.6	6.0	3.6	3.6
53°	110.6	85.3	66.2	54.1	50.5	42.1	33.6	22.9	4.8	3.6	3.6
54°	81.7	65.0	51.7	42.1	40.9	33.6	27.6	19.3	4.8	3.6	3.6
55°	60.1	50.5	39.7	33.6	32.4	27.6	22.9	15.7	4.8	3.6	3.6
57.5°	31.2	26.5	21.7	19.3	19.3	18.1	15.7	9.6	3.6	2.4	3.6
60°	16.9	14.5	12.0	10.8	13.3	12.0	10.8	6.0	3.6	2.4	3.6
61°	13.3	12.0	9.6	8.4	10.8	9.6	9.6	4.8	3.6	3.6	3.6
62°	10.8	9.6	8.4	7.2	9.6	8.4	8.4	4.8	3.6	3.6	3.6
63°	8.4	7.2	6.0	6.0	8.4	8.4	7.2	3.6	3.6	3.6	3.6
64°	6.0	6.0	4.8	4.8	7.2	7.2	6.0	3.6	3.6	3.6	3.6
65°	4.8	4.8	3.6	3.6	6.0	6.0	6.0	3.6	3.6	3.6	3.6
66°	3.6	3.6	3.6	2.4	4.8	6.0	6.0	2.4	3.6	3.6	3.6



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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°	1.2	1.2	1.2	1.2	3.6	4.8	4.8	2.4	3.6	3.6	3.6
75°	1.2	1.2	1.2	1.2	3.6	4.8	4.8	2.4	3.6	3.6	3.6
77.5°	1.2	1.2	1.2	1.2	3.6	4.8	4.8	2.4	3.6	3.6	4.8
80°	1.2	1.2	1.2	1.2	3.6	4.8	4.8	2.4	3.6	3.6	4.8
82.5°	1.2	1.2	1.2	1.2	3.6	4.8	4.8	2.4	3.6	3.6	4.8
85°	1.2	1.2	1.2	1.2	3.6	4.8	4.8	2.4	3.6	3.6	4.8
87.5°	1.2	1.2	1.2	1.2	3.6	4.8	4.8	2.4	3.6	3.6	4.8
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: P1191695

CATALOG NUMBER: LDA4A25927D010TE LAR25NF 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
0°	139.6	139.6	139.6
2.5°	104.6	98.6	97.4
5°	86.6	80.6	79.4
7.5°	79.4	74.6	73.4
10°	81.7	82.9	85.3
12.5°	104.6	115.5	125.1
15°	168.4	211.7	241.8
17.5°	293.5	324.7	345.2
20°	257.3	237.0	238.2
22.5°	144.3	129.9	128.7
25°	87.8	79.4	77.0
26°	73.4	66.2	63.8
27°	60.1	54.1	51.7
28°	49.3	44.5	43.3
29°	42.1	36.0	34.8
30°	34.8	30.0	28.8
31°	28.8	25.3	24.1
32°	25.3	21.7	19.3
33°	20.5	18.1	16.9
34°	18.1	14.5	13.3
35°	14.5	12.0	12.0
36°	13.3	10.8	9.6
37°	10.8	8.4	8.4
38°	9.6	7.2	6.0
39°	8.4	6.0	4.8
40°	7.2	4.8	3.6
42.5°	4.8	2.4	1.2
45°	3.6	1.2	0.0
47.5°	2.4	1.2	0.0
50°	2.4	0.0	0.0
51°	2.4	0.0	0.0
52°	2.4	0.0	0.0
53°	2.4	0.0	0.0
54°	2.4	0.0	0.0
55°	2.4	0.0	0.0
57.5°	2.4	0.0	0.0
60°	2.4	0.0	0.0
61°	2.4	0.0	0.0
62°	2.4	0.0	0.0
63°	2.4	1.2	0.0
64°	2.4	1.2	0.0
65°	2.4	1.2	0.0
66°	2.4	1.2	0.0



TEST NUMBER: P1191695

CATALOG NUMBER: LDA4A25927D010TE LAR25NF 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	3.6	1.2	0.0
75°	3.6	1.2	0.0
77.5°	3.6	1.2	0.0
80°	3.6	1.2	0.0
82.5°	3.6	1.2	0.0
85°	3.6	1.2	0.0
87.5°	2.4	1.2	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°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	3.6	2.4
70°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	1.2	1.2

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67.5°	2.4	2.4	2.4	2.4	4.8	4.8	4.8	2.4	3.6	3.6	3.6
70°	1.2	1.2	1.2	2.4	3.6	4.8	4.8	2.4	3.6	3.6	3.6

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67.5°	2.4	1.2	0.0
70°	2.4	1.2	0.0

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(END OF REPORT)