

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: P170865

Luminaire Tested: **LDA4A28927D010TE LAR25NF 4LLWW1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P170865
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26102)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA4A28927D010TE LAR25NF 4LLWW1
Description: PORTFOLIO 4" Lensed Wall Wash, Self-flanged, 25° Narrow Flood Optic,
at 30° tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

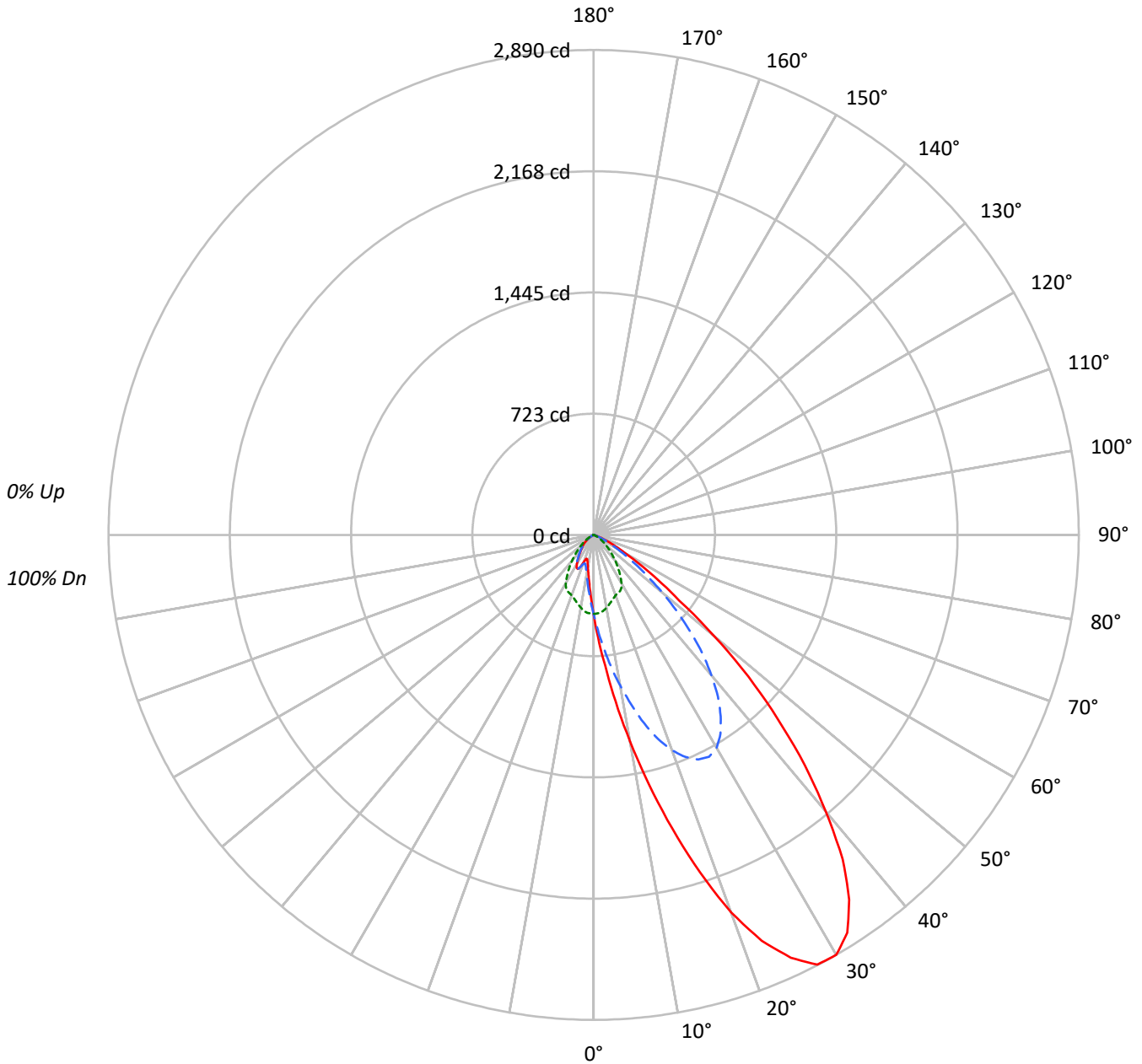
Lumens per Lamp: N/A
Luminaire Lumens: 1698.3 lumens
Efficiency: N/A
Efficacy: 38.2 lumens/watt
Spacing Criteria (0/90/45): 2.11 / 1.09 / 1.54
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 44.49
Input Voltage (V): NR
Input Current (A_{in}): 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					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90					90			
2	104	98	93	88	102	96	91	87	93	89	85	90	86	84	87	84	82	80					80			
3	97	89	82	77	95	87	81	76	84	79	75	82	77	74	79	76	73	71					71			
4	90	80	73	67	88	79	72	67	77	71	66	74	69	65	72	68	65	63					63			
5	83	73	65	60	82	72	65	59	70	63	59	68	62	58	66	61	58	56					56			
6	78	66	58	53	76	65	58	53	64	57	52	62	56	52	61	55	52	50					50			
7	72	60	53	47	71	60	52	47	58	52	47	57	51	47	56	50	46	45					45			
8	67	55	48	43	66	55	47	42	53	47	42	52	46	42	51	46	42	40					40			
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38	36					36			
10	59	47	40	35	58	46	39	35	45	39	35	45	39	34	44	38	34	33					33			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	58071	58071	58071
5°	96614	57612	36266
10°	156423	55097	24499
15°	231323	52215	19052
20°	314240	50194	22485
25°	378308	50397	30540
30°	411658	47229	28500
35°	399587	39782	22797
40°	346137	32026	18694
45°	269924	24683	15996
50°	178997	18460	12300
55°	99825	13548	7376
60°	52619	9004	3010
65°	28398	4524	321
70°	13560	1587	397
75°	4718	1048	524
80°	1563	1563	0
85°	4670	3114	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	50.2	3.0
10°-20°	198.2	11.7
20°-30°	407.7	24.0
30°-40°	486.9	28.7
40°-50°	359.6	21.2
50°-60°	151.3	8.9
60°-70°	37.2	2.2
70°-80°	5.1	0.3
80°-90°	2.0	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°	656.1	38.6
0°-40°	1143.1	67.3
0°-60°	1654.0	97.4
0°-90°	1698.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1698.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	471	471	471	471	471	
5°	780	672	465	334	293	89
15°	1812	1163	409	186	149	532
25°	2780	1477	370	223	224	1271
35°	2654	1320	264	158	151	1628
45°	1547	814	142	93	92	1188
55°	464	302	63	40	34	443
65°	97	66	16	3	1	106
75°	10	6	2	1	1	14
85°	3	3	2	1	0	3
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°	470.8	470.8	470.8	470.8	470.8	470.8	470.8	470.8	470.8	470.8	470.8
2.5°	612.3	604.6	604.6	606.8	613.4	607.9	603.5	599.1	603.5	593.5	596.8
5°	780.3	779.2	779.2	770.4	778.1	779.2	770.4	762.6	764.8	750.5	750.5
7.5°	1001.4	994.7	992.5	980.4	989.2	988.1	973.7	960.5	960.5	937.3	931.7
10°	1248.9	1240.1	1235.7	1220.2	1227.9	1223.5	1202.5	1182.6	1177.1	1143.9	1131.8
12.5°	1521.9	1516.4	1509.8	1489.9	1496.5	1487.7	1457.8	1429.1	1416.9	1372.7	1351.7
15°	1811.5	1820.4	1809.3	1786.1	1790.5	1775.0	1736.4	1696.6	1677.8	1618.1	1587.2
17.5°	2109.9	2121.0	2108.8	2082.3	2081.2	2060.2	2007.2	1958.5	1930.9	1854.6	1813.7
20°	2394.0	2397.3	2381.8	2353.1	2346.5	2317.7	2253.6	2185.1	2158.6	2064.6	2012.7
22.5°	2617.3	2629.4	2610.6	2589.6	2568.6	2532.2	2457.0	2381.8	2344.3	2237.0	2174.0
25°	2779.7	2807.4	2785.3	2760.9	2737.7	2694.6	2610.6	2529.9	2483.5	2364.2	2292.3
27.5°	2886.9	2913.5	2889.2	2861.5	2837.2	2787.5	2695.7	2618.4	2562.0	2431.6	2354.2
30°	2890.3	2922.3	2896.9	2867.0	2843.8	2794.1	2700.2	2620.6	2557.6	2427.2	2346.5
32.5°	2810.7	2836.1	2810.7	2785.3	2758.7	2711.2	2617.3	2541.0	2474.7	2349.8	2269.1
35°	2653.7	2675.8	2650.4	2620.6	2601.8	2559.8	2470.3	2397.3	2331.0	2216.0	2145.3
37.5°	2437.1	2457.0	2433.8	2417.2	2389.6	2352.0	2270.2	2205.0	2142.0	2038.1	1975.1
40°	2149.7	2191.7	2169.6	2158.6	2133.2	2101.1	2029.3	1971.8	1914.3	1823.7	1771.7
42.5°	1862.4	1902.2	1882.3	1874.5	1852.4	1824.8	1765.1	1716.5	1663.4	1588.3	1544.1
45°	1547.4	1589.4	1570.6	1567.3	1548.5	1527.5	1463.4	1437.9	1391.5	1320.8	1299.8
47.5°	1251.2	1258.9	1241.2	1242.3	1229.1	1214.7	1162.7	1147.3	1124.1	1069.9	1045.6
50°	932.8	938.4	924.0	928.4	919.6	910.7	875.4	867.6	853.3	816.8	802.4
52.5°	642.2	667.6	657.6	662.1	657.6	654.3	639.9	626.7	620.1	596.8	590.2
55°	464.2	466.4	458.7	463.1	459.8	458.7	449.8	442.1	438.8	424.4	422.2
57.5°	321.6	323.8	323.8	321.6	320.5	318.3	312.8	308.4	306.2	302.8	296.2
60°	213.3	222.2	218.8	221.1	219.9	219.9	215.5	212.2	211.1	204.5	204.5
62.5°	145.9	151.4	149.2	150.3	149.2	149.2	145.9	143.7	143.7	142.6	139.3
65°	97.3	100.6	98.4	99.5	99.5	99.5	97.3	95.1	95.1	93.9	91.7
67.5°	61.9	64.1	63.0	64.1	63.0	64.1	61.9	60.8	59.7	59.7	58.6
70°	37.6	38.7	37.6	38.7	37.6	37.6	36.5	36.5	35.4	34.3	34.3
72.5°	19.9	21.0	21.0	21.0	21.0	21.0	19.9	18.8	18.8	18.8	17.7
75°	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	8.8	8.8	8.8
77.5°	4.4	4.4	4.4	4.4	5.5	4.4	4.4	4.4	4.4	4.4	4.4
80°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
82.5°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
85°	3.3	3.3	3.3	3.3	3.3	3.3	4.4	4.4	4.4	4.4	3.3
87.5°	4.4	4.4	4.4	4.4	4.4	4.4	4.4	5.5	5.5	4.4	4.4
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°	47.5°	50°	52.5°
0°	470.8	470.8	470.8	470.8	470.8	470.8	470.8	470.8	470.8	470.8	470.8
2.5°	588.0	582.5	580.3	575.8	570.3	567.0	563.7	564.8	557.1	551.5	543.8
5°	736.1	723.9	717.3	707.4	695.2	685.3	676.4	672.0	657.6	647.7	626.7
7.5°	910.7	889.7	876.5	858.8	837.8	820.1	802.4	790.3	768.2	749.4	717.3
10°	1101.9	1069.9	1046.7	1020.2	988.1	959.4	932.8	910.7	877.6	848.8	806.8
12.5°	1310.8	1265.5	1232.4	1193.7	1148.4	1108.6	1061.1	1035.6	990.3	950.5	896.4
15°	1533.0	1473.3	1426.9	1373.8	1314.2	1261.1	1200.3	1162.7	1103.1	1052.2	984.8
17.5°	1746.3	1671.2	1610.4	1542.9	1468.9	1400.4	1328.5	1275.5	1202.5	1139.5	1058.8
20°	1932.0	1842.5	1768.4	1686.6	1599.3	1515.3	1436.8	1366.1	1281.0	1206.9	1115.2
22.5°	2083.4	1979.5	1894.4	1799.4	1698.8	1603.7	1514.2	1433.5	1336.3	1254.5	1153.9
25°	2192.8	2079.0	1983.9	1878.9	1768.4	1660.1	1565.1	1476.6	1370.5	1283.2	1176.0
27.5°	2250.3	2129.8	2029.3	1916.5	1799.4	1686.6	1583.8	1489.9	1378.3	1286.5	1176.0
30°	2240.4	2117.7	2013.8	1897.7	1779.5	1666.7	1559.5	1465.6	1350.6	1257.8	1147.3
32.5°	2164.1	2043.6	1941.9	1829.2	1713.2	1603.7	1496.5	1405.9	1290.9	1200.3	1093.1
35°	2038.1	1924.3	1828.1	1720.9	1611.5	1508.7	1411.4	1319.7	1209.2	1122.9	1022.4
37.5°	1874.5	1770.6	1683.3	1583.8	1483.3	1390.4	1294.3	1215.8	1117.4	1036.7	938.4
40°	1678.9	1587.2	1509.8	1421.4	1330.7	1250.1	1169.4	1093.1	996.9	925.1	841.1
42.5°	1463.4	1384.9	1318.6	1241.2	1162.7	1094.2	1024.6	958.3	878.7	813.5	735.0
45°	1231.3	1164.9	1110.8	1048.9	983.7	919.6	868.7	813.5	739.4	690.8	624.5
47.5°	991.4	940.6	899.7	852.2	800.2	760.4	711.8	667.6	613.4	568.1	513.9
50°	763.7	728.4	699.6	666.5	628.9	592.4	563.7	529.4	488.5	452.1	408.9
52.5°	564.8	541.6	523.9	501.8	476.4	457.6	431.1	405.6	374.7	347.1	313.9
55°	404.5	391.3	380.2	366.9	349.3	332.7	319.4	301.7	279.6	258.6	234.3
57.5°	290.7	276.3	275.2	260.8	254.2	242.1	229.9	216.6	201.2	186.8	169.1
60°	201.2	191.2	186.8	181.3	173.5	165.8	160.3	151.4	140.4	130.4	117.2
62.5°	135.9	129.3	127.1	124.9	118.3	114.9	108.3	102.8	95.1	87.3	78.5
65°	89.5	85.1	82.9	79.6	76.3	74.1	70.7	66.3	59.7	55.3	49.7
67.5°	56.4	53.1	50.8	49.7	46.4	45.3	42.0	39.8	35.4	33.2	29.8
70°	32.1	30.9	28.7	28.7	26.5	24.3	23.2	21.0	19.9	17.7	16.6
72.5°	16.6	16.6	15.5	14.4	13.3	13.3	12.2	11.1	9.9	8.8	8.8
75°	7.7	7.7	7.7	6.6	6.6	6.6	5.5	5.5	5.5	4.4	4.4
77.5°	4.4	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.2	2.2
80°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
82.5°	2.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
85°	3.3	2.2	2.2	2.2	2.2	3.3	3.3	3.3	3.3	3.3	3.3
87.5°	3.3	3.3	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
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):

	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°	77.5°	80°
0°	470.8	470.8	470.8	470.8	470.8	470.8	470.8	470.8	470.8	470.8	470.8
2.5°	538.3	536.1	530.5	529.4	517.3	515.1	508.4	498.5	490.7	488.5	490.7
5°	618.9	609.0	592.4	589.1	569.2	562.6	548.2	532.7	519.5	511.7	508.4
7.5°	701.8	685.3	660.9	648.8	620.1	605.7	584.7	562.6	541.6	527.2	518.4
10°	781.4	754.9	710.7	700.7	665.4	642.2	613.4	583.6	557.1	537.2	522.8
12.5°	856.6	824.5	779.2	751.6	705.2	675.3	638.8	602.4	569.2	542.7	522.8
15°	933.9	891.9	835.6	796.9	743.8	704.1	659.8	617.8	579.2	546.0	521.7
17.5°	998.1	946.1	879.8	833.4	771.5	723.9	673.1	624.5	582.5	544.9	517.3
20°	1045.6	984.8	909.6	855.5	786.9	733.9	678.6	625.6	579.2	538.3	508.4
22.5°	1077.6	1008.0	926.2	866.5	794.7	737.2	677.5	622.3	574.7	532.7	500.7
25°	1093.1	1017.9	932.8	868.7	793.6	733.9	672.0	615.6	567.0	523.9	492.9
27.5°	1090.9	1011.3	924.0	856.6	780.3	718.4	655.4	599.1	551.5	508.4	476.4
30°	1058.8	980.4	891.9	823.4	748.3	686.4	623.4	568.1	521.7	477.5	447.6
32.5°	1009.1	928.4	842.2	765.9	701.8	641.1	581.4	525.0	480.8	437.7	408.9
35°	941.7	864.3	781.4	716.2	646.6	588.0	530.5	477.5	435.5	393.5	366.9
37.5°	863.2	789.2	712.9	645.5	584.7	530.5	476.4	428.8	386.8	349.3	323.8
40°	772.6	704.1	634.4	576.9	517.3	467.5	417.8	371.4	337.1	302.8	280.7
42.5°	674.2	613.4	550.4	500.7	446.5	402.3	354.8	321.6	288.5	257.5	239.8
45°	571.4	518.4	465.3	420.0	375.8	337.1	296.2	265.3	239.8	214.4	198.9
47.5°	469.7	424.4	381.3	344.8	306.2	274.1	245.4	217.7	193.4	172.4	160.3
50°	366.9	337.1	302.8	273.0	242.1	215.5	189.0	169.1	150.3	134.8	127.1
52.5°	286.3	258.6	231.0	206.7	184.6	162.5	144.8	128.2	114.9	105.0	99.5
55°	213.3	191.2	170.2	151.4	133.7	119.4	107.2	97.3	88.4	80.7	78.5
57.5°	152.5	135.9	121.6	107.2	96.2	87.3	79.6	72.9	67.4	61.9	60.8
60°	106.1	93.9	85.1	76.3	69.6	63.0	58.6	54.2	49.7	46.4	45.3
62.5°	70.7	64.1	57.5	53.1	49.7	44.2	42.0	38.7	36.5	33.2	32.1
65°	45.3	40.9	37.6	34.3	32.1	29.8	27.6	25.4	23.2	21.0	21.0
67.5°	27.6	24.3	23.2	21.0	18.8	17.7	16.6	14.4	13.3	13.3	12.2
70°	15.5	13.3	12.2	11.1	9.9	9.9	8.8	7.7	7.7	6.6	6.6
72.5°	7.7	7.7	6.6	6.6	5.5	5.5	4.4	4.4	4.4	3.3	3.3
75°	4.4	4.4	3.3	3.3	3.3	3.3	3.3	3.3	2.2	2.2	2.2
77.5°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
80°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
82.5°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
85°	3.3	3.3	3.3	3.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2
87.5°	3.3	3.3	3.3	3.3	3.3	2.2	2.2	2.2	2.2	2.2	2.2
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: P170865

CATALOG NUMBER: LDA4A28927D010TE LAR25NF 4LLWW1

CANDELA DISTRIBUTION (continued):

	82.5°	85°	87.5°	90°	112.5°	135°	157.5°	180°
0°	470.8	470.8	470.8	470.8	470.8	470.8	470.8	470.8
2.5°	481.9	470.8	468.6	468.6	422.2	394.6	373.6	368.1
5°	492.9	477.5	469.7	465.3	382.4	333.8	301.7	292.9
7.5°	498.5	476.4	464.2	454.3	343.7	280.7	246.5	236.5
10°	496.3	469.7	453.2	439.9	308.4	239.8	204.5	195.6
12.5°	491.8	462.0	441.0	424.4	278.5	207.8	175.7	166.9
15°	487.4	453.2	428.8	408.9	254.2	185.7	156.9	149.2
17.5°	478.6	443.2	415.6	394.6	238.7	176.8	152.5	148.1
20°	468.6	432.2	403.4	382.4	234.3	185.7	171.3	171.3
22.5°	462.0	424.4	396.8	375.8	242.1	206.7	201.2	204.5
25°	453.2	417.8	390.2	370.3	249.8	223.3	219.9	224.4
27.5°	438.8	403.4	376.9	357.0	245.4	221.1	217.7	219.9
30°	410.1	375.8	352.6	331.6	227.7	204.5	198.9	200.1
32.5°	373.6	340.4	318.3	298.4	202.3	180.2	174.6	174.6
35°	333.8	302.8	281.8	264.2	177.9	158.1	152.5	151.4
37.5°	294.0	265.3	247.6	231.0	155.8	138.2	132.6	131.5
40°	254.2	228.8	212.2	198.9	137.1	122.7	117.2	116.1
42.5°	216.6	194.5	180.2	169.1	119.4	108.3	103.9	102.8
45°	179.1	161.4	150.3	141.5	103.9	92.8	91.7	91.7
47.5°	144.8	130.4	122.7	117.2	88.4	79.6	78.5	79.6
50°	116.1	106.1	100.6	96.2	75.2	67.4	64.1	64.1
52.5°	91.7	85.1	81.8	78.5	61.9	54.2	49.7	48.6
55°	72.9	67.4	65.2	63.0	48.6	39.8	35.4	34.3
57.5°	57.5	53.1	50.8	48.6	36.5	27.6	23.2	22.1
60°	43.1	39.8	37.6	36.5	25.4	16.6	13.3	12.2
62.5°	30.9	28.7	26.5	25.4	15.5	8.8	5.5	4.4
65°	18.8	18.8	16.6	15.5	7.7	3.3	2.2	1.1
67.5°	11.1	9.9	8.8	8.8	3.3	2.2	1.1	1.1
70°	5.5	5.5	4.4	4.4	2.2	1.1	1.1	1.1
72.5°	3.3	3.3	3.3	2.2	2.2	1.1	1.1	1.1
75°	2.2	2.2	2.2	2.2	2.2	1.1	1.1	1.1
77.5°	2.2	2.2	2.2	2.2	2.2	1.1	1.1	0.0
80°	2.2	2.2	2.2	2.2	2.2	1.1	1.1	0.0
82.5°	2.2	2.2	2.2	2.2	2.2	1.1	1.1	1.1
85°	2.2	2.2	2.2	2.2	2.2	1.1	1.1	0.0
87.5°	2.2	2.2	2.2	2.2	2.2	1.1	1.1	1.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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— 0°-180° - - 45°-225° - - - - 90°-270°













(END OF REPORT)