

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: P170847

Luminaire Tested: **LDA4A09835D010TE LAR25NF 4LLWW1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P170847
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: LDA4A09835D010TE LAR25NF 4LLWW1
Description: PORTFOLIO 4" Lensed Wall Wash, Self-flanged, 25° Narrow Flood Optic,
at 30° tilt
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 835.9 lumens
Efficiency: N/A
Efficacy: 60.4 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

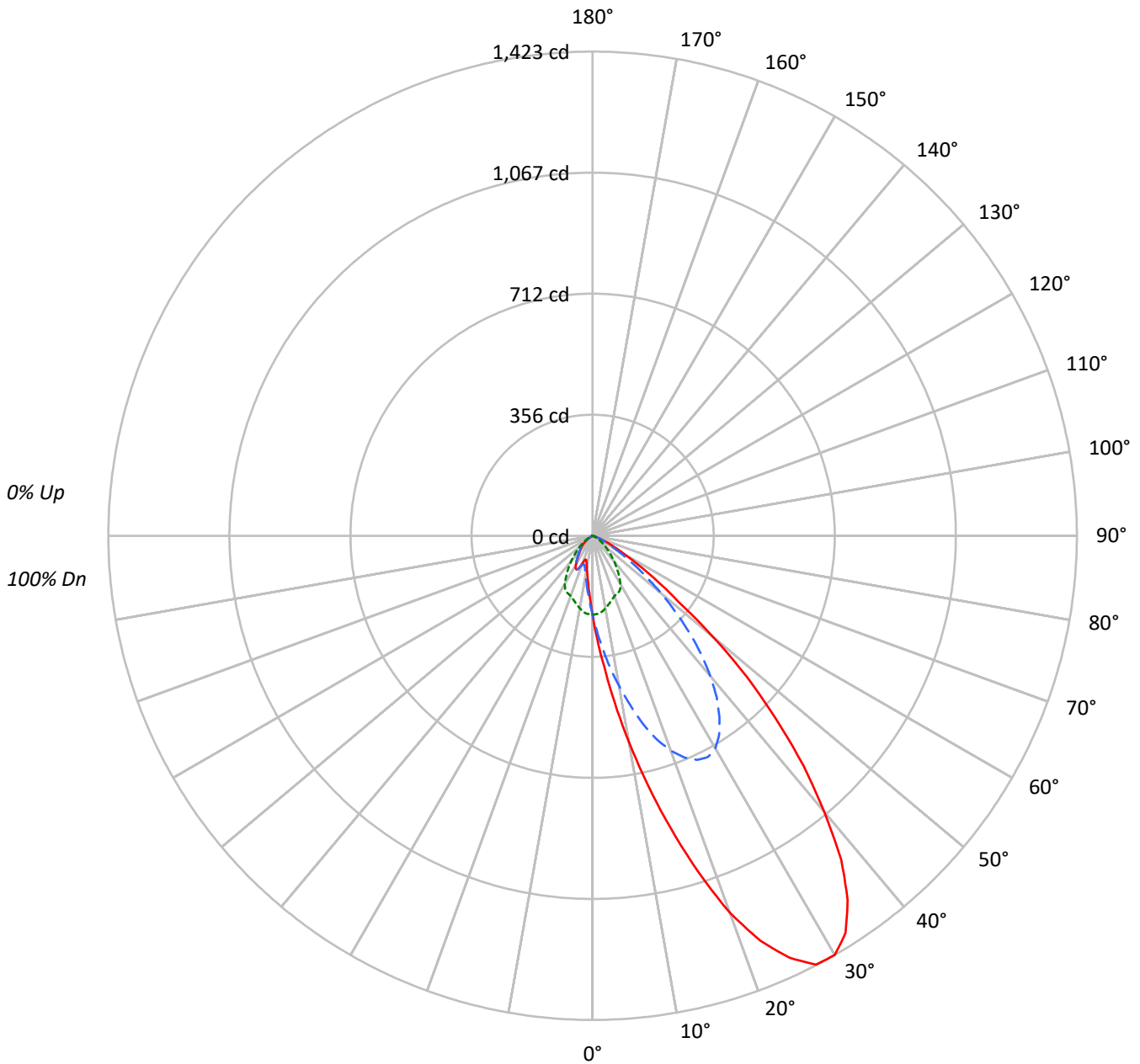
Input Watts (W): 13.84
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90																			
2	104	98	93	88	102	96	91	87	93	89	85	90	86	84	87	84	82	80																			
3	97	89	82	77	95	87	81	76	84	79	75	82	77	74	79	76	73	71																			
4	90	80	73	67	88	79	72	67	77	71	66	74	69	65	72	68	65	63																			
5	83	73	65	60	82	72	65	59	70	63	59	68	62	58	66	61	58	56																			
6	78	66	58	53	76	65	58	53	64	57	52	62	56	52	61	55	52	50																			
7	72	60	53	47	71	60	52	47	58	52	47	57	51	47	56	50	46	45																			
8	67	55	48	43	66	55	47	42	53	47	42	52	46	42	51	46	42	40																			
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38	36																			
10	59	47	40	35	58	46	39	35	45	39	35	45	39	34	44	38	34	33																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	28592	28592	28592
5°	47558	28354	17854
10°	77003	27116	12061
15°	113867	25705	9373
20°	154679	24703	11065
25°	186221	24810	15025
30°	202631	23244	14029
35°	196684	19575	11218
40°	170387	15763	9194
45°	132869	12141	7885
50°	88117	9076	6064
55°	49138	6666	3634
60°	25903	4440	1480
65°	13980	2218	146
70°	6672	793	180
75°	2335	524	238
80°	781	781	0
85°	2264	1557	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	24.7	3.0
10°-20°	97.6	11.7
20°-30°	200.7	24.0
30°-40°	239.7	28.7
40°-50°	177.0	21.2
50°-60°	74.5	8.9
60°-70°	18.3	2.2
70°-80°	2.5	0.3
80°-90°	1.0	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°	323.0	38.6
0°-40°	562.7	67.3
0°-60°	814.1	97.4
0°-90°	835.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	835.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	232	232	232	232	232	
5°	384	331	229	164	144	44
15°	892	572	201	91	73	262
25°	1368	727	182	110	110	626
35°	1306	650	130	78	74	801
45°	762	400	70	46	45	585
55°	228	148	31	20	17	218
65°	48	33	8	2	0	52
75°	5	3	1	0	0	7
85°	2	2	1	0	0	1
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°	231.8	231.8	231.8	231.8	231.8	231.8	231.8	231.8	231.8	231.8	231.8
2.5°	301.4	297.6	297.6	298.7	301.9	299.2	297.0	294.9	297.0	292.2	293.8
5°	384.1	383.6	383.6	379.2	383.0	383.6	379.2	375.4	376.5	369.4	369.4
7.5°	492.9	489.6	488.6	482.6	486.9	486.4	479.3	472.8	472.8	461.3	458.6
10°	614.8	610.4	608.2	600.6	604.4	602.3	591.9	582.1	579.4	563.1	557.1
12.5°	749.1	746.4	743.2	733.4	736.6	732.3	717.6	703.4	697.5	675.7	665.4
15°	891.7	896.0	890.6	879.2	881.4	873.7	854.7	835.1	825.9	796.5	781.2
17.5°	1038.6	1044.0	1038.0	1025.0	1024.4	1014.1	988.0	964.0	950.4	912.9	892.8
20°	1178.4	1180.0	1172.4	1158.3	1155.0	1140.9	1109.3	1075.6	1062.5	1016.3	990.7
22.5°	1288.3	1294.3	1285.0	1274.7	1264.4	1246.4	1209.4	1172.4	1153.9	1101.1	1070.1
25°	1368.3	1381.9	1371.0	1359.0	1347.6	1326.4	1285.0	1245.3	1222.5	1163.7	1128.3
27.5°	1421.0	1434.1	1422.1	1408.5	1396.6	1372.1	1326.9	1288.8	1261.1	1196.9	1158.8
30°	1422.7	1438.5	1425.9	1411.2	1399.8	1375.3	1329.1	1289.9	1258.9	1194.7	1155.0
32.5°	1383.5	1396.0	1383.5	1371.0	1357.9	1334.5	1288.3	1250.8	1218.1	1156.6	1116.9
35°	1306.2	1317.1	1304.6	1289.9	1280.7	1260.0	1215.9	1180.0	1147.4	1090.8	1056.0
37.5°	1199.6	1209.4	1198.0	1189.8	1176.2	1157.7	1117.5	1085.4	1054.4	1003.2	972.2
40°	1058.2	1078.8	1068.0	1062.5	1050.0	1034.2	998.9	970.6	942.3	897.7	872.1
42.5°	916.7	936.3	926.5	922.7	911.8	898.2	868.8	844.9	818.8	781.8	760.0
45°	761.7	782.3	773.1	771.5	762.2	751.9	720.3	707.8	685.0	650.1	639.8
47.5°	615.9	619.7	611.0	611.5	605.0	597.9	572.3	564.7	553.3	526.6	514.7
50°	459.2	461.9	454.8	457.0	452.6	448.3	430.9	427.1	420.0	402.0	395.0
52.5°	316.1	328.6	323.7	325.9	323.7	322.1	315.0	308.5	305.2	293.8	290.5
55°	228.5	229.6	225.8	228.0	226.3	225.8	221.4	217.6	216.0	208.9	207.8
57.5°	158.3	159.4	159.4	158.3	157.8	156.7	154.0	151.8	150.7	149.1	145.8
60°	105.0	109.4	107.7	108.8	108.3	108.3	106.1	104.5	103.9	100.6	100.6
62.5°	71.8	74.5	73.4	74.0	73.4	73.4	71.8	70.7	70.7	70.2	68.5
65°	47.9	49.5	48.4	49.0	49.0	49.0	47.9	46.8	46.8	46.2	45.2
67.5°	30.5	31.6	31.0	31.6	31.0	31.6	30.5	29.9	29.4	29.4	28.8
70°	18.5	19.0	18.5	19.0	18.5	18.5	18.0	18.0	17.4	16.9	16.9
72.5°	9.8	10.3	10.3	10.3	10.3	10.3	9.8	9.2	9.2	9.2	8.7
75°	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.4	4.4	4.4
77.5°	2.2	2.2	2.2	2.2	2.7	2.2	2.2	2.2	2.2	2.2	2.2
80°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
82.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
85°	1.6	1.6	1.6	1.6	1.6	1.6	2.2	2.2	2.2	2.2	1.6
87.5°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.7	2.7	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



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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°	231.8	231.8	231.8	231.8	231.8	231.8	231.8	231.8	231.8	231.8	231.8
2.5°	289.4	286.7	285.6	283.4	280.7	279.1	277.5	278.0	274.2	271.5	267.7
5°	362.3	356.3	353.1	348.2	342.2	337.3	333.0	330.8	323.7	318.8	308.5
7.5°	448.3	438.0	431.4	422.7	412.4	403.7	395.0	389.0	378.1	368.9	353.1
10°	542.4	526.6	515.2	502.2	486.4	472.2	459.2	448.3	432.0	417.8	397.2
12.5°	645.2	622.9	606.6	587.6	565.3	545.7	522.3	509.8	487.5	467.9	441.2
15°	754.6	725.2	702.4	676.2	646.9	620.8	590.8	572.3	543.0	517.9	484.7
17.5°	859.6	822.6	792.7	759.5	723.0	689.3	653.9	627.8	591.9	560.9	521.2
20°	951.0	906.9	870.5	830.2	787.2	745.9	707.3	672.4	630.5	594.1	548.9
22.5°	1025.5	974.4	932.5	885.7	836.2	789.4	745.3	705.6	657.7	617.5	568.0
25°	1079.4	1023.3	976.6	924.9	870.5	817.2	770.4	726.8	674.6	631.6	578.9
27.5°	1107.7	1048.4	998.9	943.4	885.7	830.2	779.6	733.4	678.4	633.3	578.9
30°	1102.8	1042.4	991.2	934.1	875.9	820.4	767.6	721.4	664.8	619.1	564.7
32.5°	1065.2	1005.9	955.9	900.4	843.3	789.4	736.6	692.0	635.4	590.8	538.1
35°	1003.2	947.2	899.8	847.1	793.2	742.6	694.7	649.6	595.2	552.7	503.2
37.5°	922.7	871.6	828.6	779.6	730.1	684.4	637.1	598.4	550.0	510.3	461.9
40°	826.4	781.2	743.2	699.6	655.0	615.3	575.6	538.1	490.7	455.4	414.0
42.5°	720.3	681.7	649.0	611.0	572.3	538.6	504.3	471.7	432.5	400.4	361.8
45°	606.1	573.4	546.8	516.3	484.2	452.6	427.6	400.4	364.0	340.0	307.4
47.5°	488.0	463.0	442.9	419.5	393.9	374.3	350.4	328.6	301.9	279.6	253.0
50°	375.9	358.5	344.4	328.1	309.6	291.6	277.5	260.6	240.5	222.5	201.3
52.5°	278.0	266.6	257.9	247.0	234.5	225.2	212.2	199.7	184.4	170.8	154.5
55°	199.1	192.6	187.2	180.6	171.9	163.8	157.2	148.5	137.6	127.3	115.3
57.5°	143.1	136.0	135.5	128.4	125.1	119.1	113.2	106.6	99.0	91.9	83.2
60°	99.0	94.1	91.9	89.2	85.4	81.6	78.9	74.5	69.1	64.2	57.7
62.5°	66.9	63.7	62.6	61.5	58.2	56.6	53.3	50.6	46.8	43.0	38.6
65°	44.1	41.9	40.8	39.2	37.5	36.5	34.8	32.6	29.4	27.2	24.5
67.5°	27.7	26.1	25.0	24.5	22.8	22.3	20.7	19.6	17.4	16.3	14.7
70°	15.8	15.2	14.1	14.1	13.1	12.0	11.4	10.3	9.8	8.7	8.2
72.5°	8.2	8.2	7.6	7.1	6.5	6.5	6.0	5.4	4.9	4.4	4.4
75°	3.8	3.8	3.8	3.3	3.3	3.3	2.7	2.7	2.7	2.2	2.2
77.5°	2.2	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.1	1.1
80°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
82.5°	1.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
85°	1.6	1.1	1.1	1.1	1.1	1.6	1.6	1.6	1.6	1.6	1.6
87.5°	1.6	1.6	2.2	2.2	2.2	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



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CANDELA DISTRIBUTION (continued):

	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°	77.5°	80°
0°	231.8	231.8	231.8	231.8	231.8	231.8	231.8	231.8	231.8	231.8	231.8
2.5°	264.9	263.9	261.1	260.6	254.6	253.5	250.3	245.4	241.6	240.5	241.6
5°	304.7	299.8	291.6	290.0	280.2	276.9	269.8	262.2	255.7	251.9	250.3
7.5°	345.5	337.3	325.3	319.4	305.2	298.1	287.8	276.9	266.6	259.5	255.2
10°	384.6	371.6	349.8	344.9	327.5	316.1	301.9	287.3	274.2	264.4	257.3
12.5°	421.6	405.9	383.6	369.9	347.1	332.4	314.5	296.5	280.2	267.1	257.3
15°	459.7	439.0	411.3	392.3	366.1	346.6	324.8	304.1	285.1	268.8	256.8
17.5°	491.3	465.7	433.1	410.2	379.7	356.3	331.3	307.4	286.7	268.2	254.6
20°	514.7	484.7	447.7	421.1	387.4	361.2	334.0	307.9	285.1	264.9	250.3
22.5°	530.4	496.2	455.9	426.5	391.2	362.9	333.5	306.3	282.9	262.2	246.5
25°	538.1	501.1	459.2	427.6	390.6	361.2	330.8	303.0	279.1	257.9	242.6
27.5°	537.0	497.8	454.8	421.6	384.1	353.6	322.6	294.9	271.5	250.3	234.5
30°	521.2	482.6	439.0	405.3	368.3	337.9	306.8	279.6	256.8	235.0	220.3
32.5°	496.7	457.0	414.6	377.0	345.5	315.5	286.2	258.4	236.7	215.4	201.3
35°	463.5	425.4	384.6	352.5	318.3	289.4	261.1	235.0	214.4	193.7	180.6
37.5°	424.9	388.4	350.9	317.7	287.8	261.1	234.5	211.1	190.4	171.9	159.4
40°	380.3	346.6	312.3	284.0	254.6	230.1	205.6	182.8	165.9	149.1	138.2
42.5°	331.9	301.9	270.9	246.5	219.8	198.0	174.6	158.3	142.0	126.8	118.1
45°	281.3	255.2	229.0	206.7	185.0	165.9	145.8	130.6	118.1	105.5	97.9
47.5°	231.2	208.9	187.7	169.7	150.7	134.9	120.8	107.2	95.2	84.9	78.9
50°	180.6	165.9	149.1	134.4	119.1	106.1	93.0	83.2	74.0	66.4	62.6
52.5°	140.9	127.3	113.7	101.7	90.9	80.0	71.3	63.1	56.6	51.7	49.0
55°	105.0	94.1	83.8	74.5	65.8	58.8	52.8	47.9	43.5	39.7	38.6
57.5°	75.1	66.9	59.8	52.8	47.3	43.0	39.2	35.9	33.2	30.5	29.9
60°	52.2	46.2	41.9	37.5	34.3	31.0	28.8	26.7	24.5	22.8	22.3
62.5°	34.8	31.6	28.3	26.1	24.5	21.8	20.7	19.0	18.0	16.3	15.8
65°	22.3	20.1	18.5	16.9	15.8	14.7	13.6	12.5	11.4	10.3	10.3
67.5°	13.6	12.0	11.4	10.3	9.2	8.7	8.2	7.1	6.5	6.5	6.0
70°	7.6	6.5	6.0	5.4	4.9	4.9	4.4	3.8	3.8	3.3	3.3
72.5°	3.8	3.8	3.3	3.3	2.7	2.7	2.2	2.2	2.2	1.6	1.6
75°	2.2	2.2	1.6	1.6	1.6	1.6	1.6	1.6	1.1	1.1	1.1
77.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
80°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
82.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
85°	1.6	1.6	1.6	1.6	1.1	1.1	1.1	1.1	1.1	1.1	1.1
87.5°	1.6	1.6	1.6	1.6	1.6	1.1	1.1	1.1	1.1	1.1	1.1
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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CATALOG NUMBER: LDA4A09835D010TE LAR25NF 4LLWW1

CANDELA DISTRIBUTION (continued):

	82.5°	85°	87.5°	90°	112.5°	135°	157.5°	180°
0°	231.8	231.8	231.8	231.8	231.8	231.8	231.8	231.8
2.5°	237.2	231.8	230.7	230.7	207.8	194.2	183.9	181.2
5°	242.6	235.0	231.2	229.0	188.2	164.3	148.5	144.2
7.5°	245.4	234.5	228.5	223.6	169.2	138.2	121.3	116.4
10°	244.3	231.2	223.1	216.5	151.8	118.1	100.6	96.3
12.5°	242.1	227.4	217.1	208.9	137.1	102.3	86.5	82.2
15°	239.9	223.1	211.1	201.3	125.1	91.4	77.3	73.4
17.5°	235.6	218.2	204.6	194.2	117.5	87.0	75.1	72.9
20°	230.7	212.7	198.6	188.2	115.3	91.4	84.3	84.3
22.5°	227.4	208.9	195.3	185.0	119.1	101.7	99.0	100.6
25°	223.1	205.6	192.0	182.3	123.0	109.9	108.3	110.4
27.5°	216.0	198.6	185.5	175.7	120.8	108.8	107.2	108.3
30°	201.8	185.0	173.5	163.2	112.1	100.6	97.9	98.5
32.5°	183.9	167.6	156.7	146.9	99.6	88.7	86.0	86.0
35°	164.3	149.1	138.7	130.0	87.6	77.8	75.1	74.5
37.5°	144.7	130.6	121.9	113.7	76.7	68.0	65.3	64.7
40°	125.1	112.6	104.5	97.9	67.5	60.4	57.7	57.1
42.5°	106.6	95.8	88.7	83.2	58.8	53.3	51.1	50.6
45°	88.1	79.4	74.0	69.6	51.1	45.7	45.2	45.2
47.5°	71.3	64.2	60.4	57.7	43.5	39.2	38.6	39.2
50°	57.1	52.2	49.5	47.3	37.0	33.2	31.6	31.6
52.5°	45.2	41.9	40.3	38.6	30.5	26.7	24.5	23.9
55°	35.9	33.2	32.1	31.0	23.9	19.6	17.4	16.9
57.5°	28.3	26.1	25.0	23.9	18.0	13.6	11.4	10.9
60°	21.2	19.6	18.5	18.0	12.5	8.2	6.5	6.0
62.5°	15.2	14.1	13.1	12.5	7.6	4.4	2.7	2.2
65°	9.2	9.2	8.2	7.6	3.8	1.6	1.1	0.5
67.5°	5.4	4.9	4.4	4.4	1.6	1.1	0.5	0.5
70°	2.7	2.7	2.2	2.2	1.1	0.5	0.5	0.5
72.5°	1.6	1.6	1.6	1.1	1.1	0.5	0.5	0.5
75°	1.1	1.1	1.1	1.1	1.1	0.5	0.5	0.5
77.5°	1.1	1.1	1.1	1.1	1.1	0.5	0.5	0.0
80°	1.1	1.1	1.1	1.1	1.1	0.5	0.5	0.0
82.5°	1.1	1.1	1.1	1.1	1.1	0.5	0.5	0.5
85°	1.1	1.1	1.1	1.1	1.1	0.5	0.5	0.0
87.5°	1.1	1.1	1.1	1.1	1.1	0.5	0.5	0.5
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)