

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: P170846

Luminaire Tested: **LDA4A09830D010TE LAR25NF 4LLWW1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P170846
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: LDA4A09830D010TE LAR25NF 4LLWW1
Description: PORTFOLIO 4" Lensed Wall Wash, Self-flanged, 25° Narrow Flood Optic,
at 30° tilt
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 795.1 lumens
Efficiency: N/A
Efficacy: 57.5 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

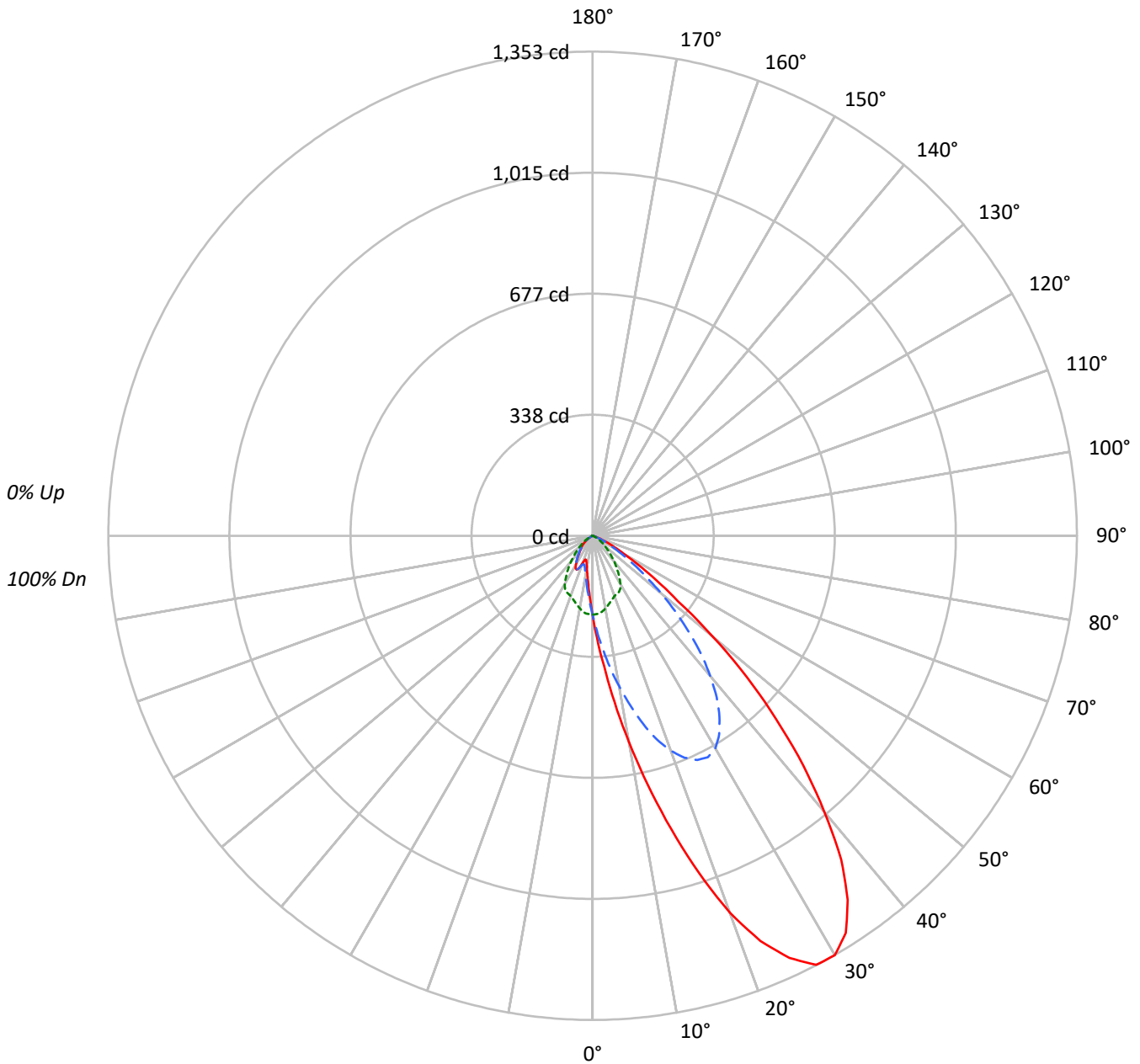
Input Watts (W): 13.84
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					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°	27185	27185	27185
5°	45230	26980	16975
10°	73245	25801	11473
15°	108312	24454	8926
20°	147131	23509	10527
25°	177130	23599	14290
30°	192733	22105	13345
35°	187092	18626	10676
40°	162063	14991	8743
45°	126380	11548	7501
50°	83818	8635	5757
55°	46730	6344	3441
60°	24644	4218	1406
65°	13280	2101	146
70°	6347	757	180
75°	2240	477	238
80°	710	710	0
85°	2264	1415	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	23.5	3.0
10°-20°	92.8	11.7
20°-30°	190.9	24.0
30°-40°	228.0	28.7
40°-50°	168.4	21.2
50°-60°	70.9	8.9
60°-70°	17.4	2.2
70°-80°	2.4	0.3
80°-90°	0.9	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°	307.2	38.6
0°-40°	535.2	67.3
0°-60°	774.4	97.4
0°-90°	795.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	795.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	220	220	220	220	220	
5°	365	315	218	156	137	42
15°	848	544	192	87	70	249
25°	1302	691	173	104	105	595
35°	1242	618	124	74	71	762
45°	724	381	66	44	43	556
55°	217	141	30	19	16	207
65°	46	31	7	2	0	50
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°	220.4	220.4	220.4	220.4	220.4	220.4	220.4	220.4	220.4	220.4	220.4
2.5°	286.7	283.1	283.1	284.1	287.2	284.6	282.5	280.5	282.5	277.9	279.4
5°	365.3	364.8	364.8	360.7	364.3	364.8	360.7	357.1	358.1	351.4	351.4
7.5°	468.8	465.7	464.7	459.0	463.1	462.6	455.9	449.7	449.7	438.8	436.2
10°	584.8	580.6	578.5	571.3	574.9	572.9	563.0	553.7	551.1	535.6	529.9
12.5°	712.6	710.0	706.9	697.6	700.7	696.5	682.6	669.1	663.4	642.7	632.9
15°	848.2	852.3	847.1	836.3	838.3	831.1	813.0	794.3	785.5	757.6	743.1
17.5°	987.9	993.1	987.4	974.9	974.4	964.6	939.8	917.0	904.0	868.3	849.2
20°	1120.9	1122.4	1115.2	1101.7	1098.6	1085.2	1055.2	1023.1	1010.6	966.7	942.3
22.5°	1225.4	1231.1	1222.3	1212.5	1202.6	1185.6	1150.4	1115.2	1097.6	1047.4	1017.9
25°	1301.5	1314.4	1304.1	1292.7	1281.8	1261.6	1222.3	1184.5	1162.8	1106.9	1073.3
27.5°	1351.7	1364.1	1352.7	1339.8	1328.4	1305.1	1262.1	1225.9	1199.5	1138.5	1102.2
30°	1353.2	1368.2	1356.3	1342.4	1331.5	1308.2	1264.2	1227.0	1197.5	1136.4	1098.6
32.5°	1316.0	1327.9	1316.0	1304.1	1291.6	1269.4	1225.4	1189.7	1158.7	1100.2	1062.4
35°	1242.5	1252.8	1240.9	1227.0	1218.2	1198.5	1156.6	1122.4	1091.4	1037.6	1004.4
37.5°	1141.1	1150.4	1139.5	1131.7	1118.8	1101.2	1062.9	1032.4	1002.9	954.2	924.7
40°	1006.5	1026.2	1015.8	1010.6	998.7	983.7	950.1	923.2	896.3	853.9	829.5
42.5°	872.0	890.6	881.3	877.7	867.3	854.4	826.4	803.7	778.8	743.6	722.9
45°	724.5	744.1	735.3	733.8	725.0	715.2	685.2	673.2	651.5	618.4	608.6
47.5°	585.8	589.4	581.1	581.7	575.4	568.7	544.4	537.2	526.3	500.9	489.5
50°	436.8	439.3	432.6	434.7	430.5	426.4	409.8	406.2	399.5	382.4	375.7
52.5°	300.7	312.6	307.9	310.0	307.9	306.4	299.6	293.4	290.3	279.4	276.3
55°	217.3	218.4	214.8	216.8	215.3	214.8	210.6	207.0	205.4	198.7	197.7
57.5°	150.6	151.6	151.6	150.6	150.1	149.0	146.4	144.4	143.3	141.8	138.7
60°	99.9	104.0	102.5	103.5	103.0	103.0	100.9	99.4	98.8	95.7	95.7
62.5°	68.3	70.9	69.9	70.4	69.9	69.9	68.3	67.3	67.3	66.8	65.2
65°	45.5	47.1	46.1	46.6	46.6	46.6	45.5	44.5	44.5	44.0	43.0
67.5°	29.0	30.0	29.5	30.0	29.5	30.0	29.0	28.5	27.9	27.9	27.4
70°	17.6	18.1	17.6	18.1	17.6	17.6	17.1	17.1	16.6	16.0	16.0
72.5°	9.3	9.8	9.8	9.8	9.8	9.8	9.3	8.8	8.8	8.8	8.3
75°	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.1	4.1	4.1
77.5°	2.1	2.1	2.1	2.1	2.6	2.1	2.1	2.1	2.1	2.1	2.1
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
82.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
85°	1.6	1.6	1.6	1.6	1.6	1.6	2.1	2.1	2.1	2.1	1.6
87.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.6	2.6	2.1	2.1
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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CANDELA DISTRIBUTION (continued):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	47.5°	50°	52.5°
0°	220.4	220.4	220.4	220.4	220.4	220.4	220.4	220.4	220.4	220.4	220.4
2.5°	275.3	272.7	271.7	269.6	267.0	265.5	263.9	264.4	260.8	258.2	254.6
5°	344.6	339.0	335.8	331.2	325.5	320.8	316.7	314.6	307.9	303.2	293.4
7.5°	426.4	416.6	410.4	402.1	392.3	384.0	375.7	370.0	359.7	350.9	335.8
10°	515.9	500.9	490.1	477.6	462.6	449.2	436.8	426.4	410.9	397.4	377.8
12.5°	613.7	592.5	577.0	558.9	537.7	519.0	496.8	484.9	463.7	445.0	419.7
15°	717.8	689.8	668.1	643.2	615.3	590.5	562.0	544.4	516.5	492.6	461.1
17.5°	817.6	782.4	754.0	722.4	687.7	655.7	622.0	597.2	563.0	533.5	495.8
20°	904.6	862.6	828.0	789.7	748.8	709.5	672.7	639.6	599.8	565.1	522.1
22.5°	975.5	926.8	887.0	842.5	795.4	750.9	709.0	671.2	625.6	587.3	540.3
25°	1026.7	973.4	928.9	879.7	828.0	777.3	732.8	691.4	641.7	600.8	550.6
27.5°	1053.6	997.2	950.1	897.3	842.5	789.7	741.6	697.6	645.3	602.4	550.6
30°	1048.9	991.5	942.9	888.5	833.2	780.4	730.2	686.2	632.4	588.9	537.2
32.5°	1013.2	956.8	909.2	856.4	802.1	750.9	700.7	658.2	604.4	562.0	511.8
35°	954.2	900.9	855.9	805.7	754.5	706.4	660.8	617.9	566.1	525.8	478.7
37.5°	877.7	829.0	788.1	741.6	694.5	651.0	606.0	569.2	523.2	485.4	439.3
40°	786.1	743.1	706.9	665.5	623.1	585.3	547.5	511.8	466.8	433.1	393.8
42.5°	685.2	648.4	617.4	581.1	544.4	512.3	479.7	448.7	411.4	380.9	344.1
45°	576.5	545.4	520.1	491.1	460.6	430.5	406.7	380.9	346.2	323.4	292.4
47.5°	464.2	440.4	421.2	399.0	374.7	356.0	333.3	312.6	287.2	266.0	240.6
50°	357.6	341.0	327.6	312.0	294.4	277.4	263.9	247.9	228.7	211.7	191.5
52.5°	264.4	253.6	245.3	234.9	223.0	214.2	201.8	189.9	175.4	162.5	147.0
55°	189.4	183.2	178.0	171.8	163.5	155.8	149.6	141.3	130.9	121.1	109.7
57.5°	136.1	129.4	128.9	122.1	119.0	113.3	107.6	101.4	94.2	87.5	79.2
60°	94.2	89.5	87.5	84.9	81.2	77.6	75.0	70.9	65.7	61.1	54.9
62.5°	63.7	60.5	59.5	58.5	55.4	53.8	50.7	48.1	44.5	40.9	36.7
65°	41.9	39.8	38.8	37.3	35.7	34.7	33.1	31.0	27.9	25.9	23.3
67.5°	26.4	24.8	23.8	23.3	21.7	21.2	19.7	18.6	16.6	15.5	14.0
70°	15.0	14.5	13.5	13.5	12.4	11.4	10.9	9.8	9.3	8.3	7.8
72.5°	7.8	7.8	7.2	6.7	6.2	6.2	5.7	5.2	4.7	4.1	4.1
75°	3.6	3.6	3.6	3.1	3.1	3.1	2.6	2.6	2.6	2.1	2.1
77.5°	2.1	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.0	1.0
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
82.5°	1.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
85°	1.6	1.0	1.0	1.0	1.0	1.6	1.6	1.6	1.6	1.6	1.6
87.5°	1.6	1.6	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
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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CANDELA DISTRIBUTION (continued):

	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°	77.5°	80°
0°	220.4	220.4	220.4	220.4	220.4	220.4	220.4	220.4	220.4	220.4	220.4
2.5°	252.0	251.0	248.4	247.9	242.2	241.1	238.0	233.4	229.8	228.7	229.8
5°	289.8	285.1	277.4	275.8	266.5	263.4	256.7	249.4	243.2	239.6	238.0
7.5°	328.6	320.8	309.5	303.8	290.3	283.6	273.7	263.4	253.6	246.8	242.7
10°	365.9	353.4	332.7	328.1	311.5	300.7	287.2	273.2	260.8	251.5	244.8
12.5°	401.1	386.0	364.8	351.9	330.2	316.2	299.1	282.0	266.5	254.1	244.8
15°	437.3	417.6	391.2	373.1	348.3	329.6	308.9	289.3	271.2	255.6	244.3
17.5°	467.3	443.0	411.9	390.2	361.2	339.0	315.1	292.4	272.7	255.1	242.2
20°	489.5	461.1	425.9	400.5	368.4	343.6	317.7	292.9	271.2	252.0	238.0
22.5°	504.5	471.9	433.7	405.7	372.1	345.2	317.2	291.3	269.1	249.4	234.4
25°	511.8	476.6	436.8	406.7	371.6	343.6	314.6	288.2	265.5	245.3	230.8
27.5°	510.8	473.5	432.6	401.1	365.3	336.4	306.9	280.5	258.2	238.0	223.0
30°	495.8	459.0	417.6	385.5	350.3	321.4	291.9	266.0	244.3	223.6	209.6
32.5°	472.5	434.7	394.3	358.6	328.6	300.1	272.2	245.8	225.1	204.9	191.5
35°	440.9	404.7	365.9	335.3	302.7	275.3	248.4	223.6	203.9	184.2	171.8
37.5°	404.2	369.5	333.8	302.2	273.7	248.4	223.0	200.8	181.1	163.5	151.6
40°	361.7	329.6	297.0	270.1	242.2	218.9	195.6	173.9	157.8	141.8	131.4
42.5°	315.7	287.2	257.7	234.4	209.1	188.4	166.1	150.6	135.1	120.6	112.3
45°	267.5	242.7	217.9	196.6	175.9	157.8	138.7	124.2	112.3	100.4	93.1
47.5°	219.9	198.7	178.5	161.5	143.3	128.3	114.9	101.9	90.6	80.7	75.0
50°	171.8	157.8	141.8	127.8	113.3	100.9	88.5	79.2	70.4	63.1	59.5
52.5°	134.0	121.1	108.2	96.8	86.4	76.1	67.8	60.0	53.8	49.2	46.6
55°	99.9	89.5	79.7	70.9	62.6	55.9	50.2	45.5	41.4	37.8	36.7
57.5°	71.4	63.7	56.9	50.2	45.0	40.9	37.3	34.2	31.6	29.0	28.5
60°	49.7	44.0	39.8	35.7	32.6	29.5	27.4	25.4	23.3	21.7	21.2
62.5°	33.1	30.0	26.9	24.8	23.3	20.7	19.7	18.1	17.1	15.5	15.0
65°	21.2	19.1	17.6	16.0	15.0	14.0	12.9	11.9	10.9	9.8	9.8
67.5°	12.9	11.4	10.9	9.8	8.8	8.3	7.8	6.7	6.2	6.2	5.7
70°	7.2	6.2	5.7	5.2	4.7	4.7	4.1	3.6	3.6	3.1	3.1
72.5°	3.6	3.6	3.1	3.1	2.6	2.6	2.1	2.1	2.1	1.6	1.6
75°	2.1	2.1	1.6	1.6	1.6	1.6	1.6	1.6	1.0	1.0	1.0
77.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
82.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
85°	1.6	1.6	1.6	1.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0
87.5°	1.6	1.6	1.6	1.6	1.6	1.0	1.0	1.0	1.0	1.0	1.0
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: LDA4A09830D010TE LAR25NF 4LLWW1

CANDELA DISTRIBUTION (continued):

	82.5°	85°	87.5°	90°	112.5°	135°	157.5°	180°
0°	220.4	220.4	220.4	220.4	220.4	220.4	220.4	220.4
2.5°	225.6	220.4	219.4	219.4	197.7	184.7	174.9	172.3
5°	230.8	223.6	219.9	217.9	179.1	156.3	141.3	137.1
7.5°	233.4	223.0	217.3	212.7	160.9	131.4	115.4	110.7
10°	232.4	219.9	212.2	206.0	144.4	112.3	95.7	91.6
12.5°	230.3	216.3	206.5	198.7	130.4	97.3	82.3	78.1
15°	228.2	212.2	200.8	191.5	119.0	86.9	73.5	69.9
17.5°	224.1	207.5	194.6	184.7	111.8	82.8	71.4	69.3
20°	219.4	202.3	188.9	179.1	109.7	86.9	80.2	80.2
22.5°	216.3	198.7	185.8	175.9	113.3	96.8	94.2	95.7
25°	212.2	195.6	182.7	173.4	117.0	104.5	103.0	105.0
27.5°	205.4	188.9	176.5	167.1	114.9	103.5	101.9	103.0
30°	192.0	175.9	165.1	155.2	106.6	95.7	93.1	93.7
32.5°	174.9	159.4	149.0	139.7	94.7	84.4	81.8	81.8
35°	156.3	141.8	132.0	123.7	83.3	74.0	71.4	70.9
37.5°	137.7	124.2	115.9	108.2	73.0	64.7	62.1	61.6
40°	119.0	107.1	99.4	93.1	64.2	57.4	54.9	54.3
42.5°	101.4	91.1	84.4	79.2	55.9	50.7	48.6	48.1
45°	83.8	75.6	70.4	66.2	48.6	43.5	43.0	43.0
47.5°	67.8	61.1	57.4	54.9	41.4	37.3	36.7	37.3
50°	54.3	49.7	47.1	45.0	35.2	31.6	30.0	30.0
52.5°	43.0	39.8	38.3	36.7	29.0	25.4	23.3	22.8
55°	34.2	31.6	30.5	29.5	22.8	18.6	16.6	16.0
57.5°	26.9	24.8	23.8	22.8	17.1	12.9	10.9	10.3
60°	20.2	18.6	17.6	17.1	11.9	7.8	6.2	5.7
62.5°	14.5	13.5	12.4	11.9	7.2	4.1	2.6	2.1
65°	8.8	8.8	7.8	7.2	3.6	1.6	1.0	0.5
67.5°	5.2	4.7	4.1	4.1	1.6	1.0	0.5	0.5
70°	2.6	2.6	2.1	2.1	1.0	0.5	0.5	0.5
72.5°	1.6	1.6	1.6	1.0	1.0	0.5	0.5	0.5
75°	1.0	1.0	1.0	1.0	1.0	0.5	0.5	0.5
77.5°	1.0	1.0	1.0	1.0	1.0	0.5	0.5	0.0
80°	1.0	1.0	1.0	1.0	1.0	0.5	0.5	0.0
82.5°	1.0	1.0	1.0	1.0	1.0	0.5	0.5	0.5
85°	1.0	1.0	1.0	1.0	1.0	0.5	0.5	0.0
87.5°	1.0	1.0	1.0	1.0	1.0	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)