

Classified
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P837948

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-1STD-27-120-EDD-90**

Issue Date: 5/21/2024



Test Information

Test Method: LM-79-08
Report Number: P837948
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-2-INS-ASY2R-LD4-1STD-27-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and RFI grid
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

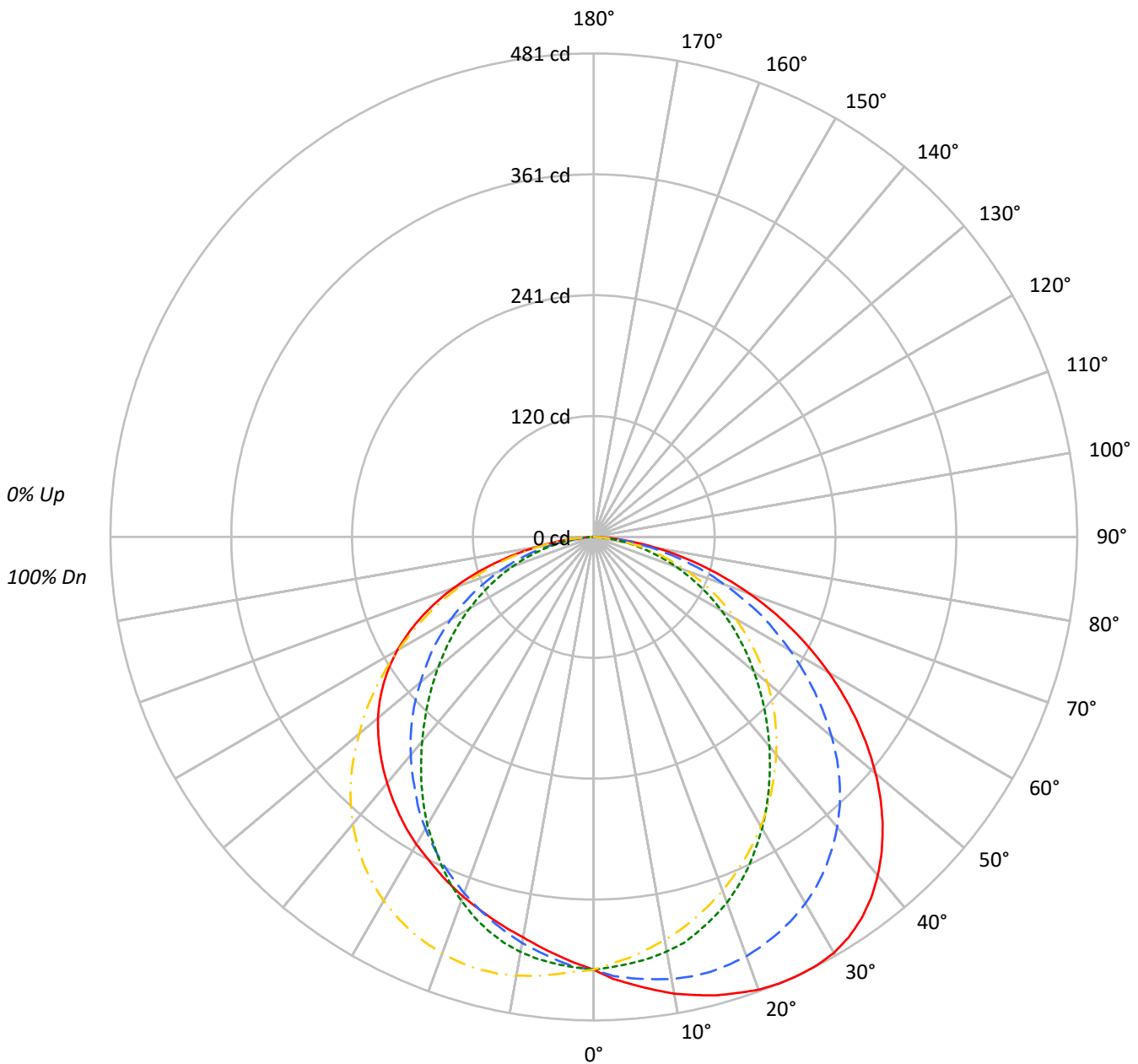
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1263.0 lumens
Efficiency: N/A
Efficacy: 76.1 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 16.6
Input Voltage (V): 120
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



— 0°-180° - - 45°-225° - · - · 90°-270° - · - · 135°-315°



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				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	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100
1	109	104	100	96	106	102	98	94	97	94	91	94	91	89	90	88	86	84	84	84	84
2	99	91	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	70	70	70	70
3	90	79	71	65	88	78	70	64	75	68	63	72	66	62	69	65	61	59	59	59	59
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	50	50	50	50
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	56	50	45	43	43	43	43
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	38	38	38	38
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33	33	33	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	29	29	29	29
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	26	26	26	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24	24	24	24

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	1158	1158	1158	1158
5°	1207	1150	1128	1152
10°	1261	1144	1106	1146
15°	1315	1130	1095	1130
20°	1373	1109	1090	1103
25°	1429	1078	1090	1067
30°	1485	1041	1097	1029
35°	1524	998	1108	982
40°	1544	955	1123	933
45°	1547	911	1145	889
50°	1533	870	1173	846
55°	1501	831	1200	808
60°	1454	791	1215	770
65°	1389	744	1209	727
70°	1297	690	1166	677
75°	1168	614	1070	611
80°	990	514	899	522
85°	689	340	571	349



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.9	3.2
10°-20°	118.4	9.4
20°-30°	181.4	14.4
30°-40°	220.6	17.5
40°-50°	229.3	18.2
50°-60°	207.1	16.4
60°-70°	157.5	12.5
70°-80°	87.8	7.0
80°-90°	20.2	1.6
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°	340.6	27.0
0°-40°	561.2	44.4
0°-60°	997.6	79.0
0°-90°	1263.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1263.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	430	430	430	430	430	
5°	447	426	418	426	447	43
15°	472	406	393	406	472	134
25°	481	363	367	359	481	222
35°	464	304	337	299	464	290
45°	407	240	301	234	407	313
55°	320	177	256	172	320	286
65°	218	117	190	114	218	216
75°	112	59	103	59	112	119
85°	22	11	18	11	22	28
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	430.5	430.5	430.5	430.5	430.5	430.5	430.5	430.5	430.5	430.5	430.5
2.5°	440.0	433.6	433.7	439.3	435.0	437.1	431.1	433.4	432.7	433.2	428.3
5°	447.0	440.0	439.9	444.8	439.9	440.8	433.2	434.7	432.5	431.1	425.8
7.5°	454.3	447.4	446.7	450.9	444.6	443.9	435.4	435.4	431.4	427.9	422.9
10°	461.5	454.4	453.5	456.7	448.9	446.6	436.3	434.7	429.4	424.2	418.7
12.5°	466.9	459.7	459.0	461.0	452.2	448.0	436.3	433.2	425.4	418.0	413.8
15°	472.1	464.6	462.7	463.7	453.6	448.0	434.9	430.1	420.1	410.4	405.5
17.5°	475.7	468.6	466.6	466.5	454.3	446.3	431.9	425.3	413.2	401.6	396.7
20°	479.3	472.2	469.8	468.0	454.1	444.0	427.5	418.5	404.5	391.4	387.3
22.5°	481.1	473.8	471.2	468.5	452.8	439.7	422.1	410.7	394.6	379.1	375.7
25°	481.4	473.9	471.1	467.1	450.2	434.7	415.0	401.3	383.3	366.0	363.1
27.5°	480.6	472.4	469.6	464.8	446.3	428.6	406.7	390.5	371.2	352.2	349.1
30°	477.8	469.5	466.7	460.6	440.7	421.1	397.6	378.6	357.9	337.6	334.9
32.5°	472.2	464.0	461.8	455.7	434.7	412.3	386.9	365.7	343.1	323.8	319.7
35°	463.9	455.8	454.4	448.0	426.3	401.9	375.3	351.7	327.5	307.7	303.8
37.5°	453.2	446.4	444.3	437.9	416.3	390.0	361.9	336.4	311.5	290.2	287.8
40°	439.6	433.2	431.6	426.0	404.8	376.9	347.4	320.6	295.0	275.2	271.8
42.5°	424.2	418.1	417.2	411.4	390.5	362.3	331.8	304.3	277.9	258.8	255.4
45°	406.6	400.8	400.6	395.0	375.0	346.1	315.3	287.7	261.1	241.3	239.5
47.5°	387.2	382.0	382.0	376.9	357.6	328.4	298.3	270.4	244.2	226.7	223.5
50°	366.1	361.2	359.7	357.2	338.4	309.0	280.5	253.6	227.5	210.9	207.8
52.5°	343.6	339.4	340.4	335.8	317.6	288.8	262.4	234.6	210.8	195.6	192.5
55°	319.9	313.9	314.8	313.1	295.9	268.0	242.1	218.9	194.3	180.1	177.1
57.5°	295.3	287.5	290.7	289.7	272.8	246.7	223.5	201.1	177.9	164.8	162.0
60°	270.1	262.6	265.9	265.0	249.1	225.4	204.4	183.6	161.7	149.7	146.9
62.5°	244.2	237.3	240.3	239.6	225.0	203.6	185.3	166.2	145.3	134.6	132.0
65°	218.1	211.5	214.2	213.7	200.2	184.0	165.7	148.2	128.8	119.5	116.9
67.5°	191.4	185.3	187.8	187.8	175.4	159.9	146.0	130.0	112.7	104.6	102.2
70°	164.9	159.2	161.4	161.2	150.7	138.1	126.1	111.9	96.3	89.7	87.7
72.5°	138.2	133.2	135.2	135.0	126.2	118.1	106.2	93.9	80.3	75.0	73.2
75°	112.3	107.5	109.5	109.3	102.1	94.5	86.6	76.3	64.7	61.0	59.1
77.5°	87.6	82.7	84.4	84.4	79.1	73.6	67.3	59.3	51.1	47.1	45.8
80°	63.9	61.6	60.8	60.9	57.3	53.7	50.5	42.9	36.9	34.1	33.2
82.5°	42.0	40.1	39.3	39.5	37.5	35.2	33.2	27.9	23.9	22.3	21.8
85°	22.3	20.9	20.2	20.7	20.3	19.1	18.1	14.5	11.9	11.3	11.0
87.5°	7.0	6.1	5.6	7.4	6.3	5.6	5.4	4.3	3.3	3.3	3.2
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	430.5	430.5	430.5	430.5	430.5	430.5	430.5	430.5	430.5	430.5	430.5
2.5°	429.9	429.9	426.0	425.1	424.7	425.2	421.3	420.6	426.2	424.3	420.0
5°	426.5	426.3	420.8	419.8	419.8	419.1	414.7	413.7	419.3	417.7	413.0
7.5°	422.3	421.7	415.1	414.4	413.4	413.0	408.1	407.4	412.2	411.2	406.8
10°	417.1	416.5	408.8	408.3	407.2	406.4	401.8	401.3	406.2	404.6	401.1
12.5°	410.4	409.3	401.4	400.9	400.0	399.7	395.1	394.9	400.4	398.8	395.0
15°	401.6	400.7	391.8	392.0	392.1	392.1	388.5	388.3	393.6	392.9	388.9
17.5°	391.8	390.6	382.2	382.8	383.5	384.3	381.5	382.0	387.6	386.7	383.1
20°	380.8	379.6	371.3	373.1	374.6	376.2	374.4	375.8	381.0	380.6	377.9
22.5°	368.4	367.2	359.6	362.2	364.7	367.7	366.9	368.5	374.1	374.0	371.5
25°	353.4	353.7	346.9	350.2	354.4	358.6	358.9	361.5	367.6	367.0	364.8
27.5°	339.3	339.7	332.6	338.0	343.6	349.1	350.4	354.0	360.2	359.7	357.8
30°	324.6	325.1	318.1	325.6	332.4	339.0	341.8	346.7	353.1	353.1	351.1
32.5°	309.2	310.1	302.9	312.8	320.7	328.5	333.4	338.5	345.7	345.5	343.8
35°	293.4	294.4	287.8	300.5	308.4	317.8	324.0	330.8	337.2	337.3	336.0
37.5°	277.4	278.6	272.5	286.4	295.4	306.6	314.4	321.2	328.4	328.8	327.6
40°	261.4	262.7	257.5	270.8	282.3	294.7	303.8	311.8	319.6	319.8	319.0
42.5°	245.4	246.8	242.9	256.0	268.9	282.3	292.9	302.1	310.1	310.6	309.7
45°	229.9	231.1	228.3	242.5	255.0	269.5	281.8	292.1	300.3	301.0	300.7
47.5°	214.4	215.5	213.0	226.0	240.4	255.9	270.0	281.5	290.1	290.9	290.7
50°	199.2	200.1	197.4	211.1	225.3	241.8	256.6	269.8	279.5	280.3	280.2
52.5°	184.2	185.1	182.8	197.1	210.1	227.4	243.5	257.9	267.4	268.6	268.8
55°	169.6	170.0	168.2	182.0	194.5	212.7	231.2	245.1	254.7	255.7	256.3
57.5°	155.0	155.1	153.6	166.8	178.8	197.4	216.8	231.5	240.5	241.5	242.4
60°	140.6	140.5	138.8	151.5	163.1	181.5	201.6	216.2	224.9	225.8	227.0
62.5°	126.2	125.9	124.4	136.2	147.0	165.2	185.5	199.5	207.9	208.5	210.1
65°	112.0	111.7	110.3	121.1	130.9	148.3	168.2	181.6	189.1	189.9	189.6
67.5°	97.9	97.3	96.2	105.9	114.9	130.9	150.0	162.8	169.0	169.7	171.6
70°	83.8	83.1	80.6	91.0	98.8	113.2	130.9	142.3	147.5	148.2	147.9
72.5°	70.0	69.3	66.6	76.1	82.7	95.3	111.2	120.6	125.1	125.7	125.7
75°	56.5	56.1	54.4	61.7	67.2	77.4	90.9	98.7	102.2	102.9	102.7
77.5°	43.6	43.3	41.6	47.8	52.1	59.7	70.6	76.7	79.3	80.1	81.8
80°	31.2	31.1	28.4	34.5	36.5	42.9	50.8	55.5	56.9	58.0	59.2
82.5°	20.0	20.1	17.4	22.6	23.4	27.5	32.4	35.3	36.4	37.3	38.2
85°	9.7	10.1	8.6	11.9	12.1	14.2	16.3	17.4	17.8	18.5	19.3
87.5°	2.5	2.9	1.6	3.4	3.0	3.9	4.5	4.8	4.7	5.2	5.5
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	430.5	430.5	430.5	430.5	430.5	430.5	430.5	430.5	430.5	430.5	430.5
2.5°	421.4	424.6	423.0	428.2	430.2	427.0	432.6	432.7	428.7	433.4	436.0
5°	414.8	418.1	417.1	422.6	425.1	422.3	429.1	430.4	426.5	431.8	436.0
7.5°	408.2	412.1	410.8	416.3	419.3	417.1	424.5	426.6	423.6	429.4	435.0
10°	402.5	405.8	404.4	410.2	412.8	411.0	418.2	422.2	419.3	426.5	433.2
12.5°	396.9	399.6	398.0	402.8	405.3	403.0	411.8	415.4	413.4	420.9	429.5
15°	389.6	392.6	390.4	394.7	396.7	394.6	401.9	408.1	405.6	413.7	423.3
17.5°	384.1	385.8	382.8	386.2	387.3	384.6	391.9	398.1	396.3	405.1	416.1
20°	378.0	379.4	375.2	377.1	377.0	373.6	380.3	386.3	385.1	394.8	407.4
22.5°	371.1	371.9	366.9	367.3	367.1	361.5	367.5	373.7	373.2	383.0	397.1
25°	363.9	364.0	357.7	357.5	355.3	348.7	354.0	360.9	359.4	370.0	384.8
27.5°	356.8	355.8	348.2	346.3	342.8	334.9	339.6	345.8	344.9	355.4	371.8
30°	349.2	347.9	338.5	335.2	330.1	320.9	324.9	330.7	331.2	340.3	357.5
32.5°	341.9	338.6	328.3	323.4	317.0	306.4	308.5	314.4	315.2	324.5	342.1
35°	332.6	330.4	317.6	309.4	303.1	291.4	293.6	297.7	298.9	308.0	326.0
37.5°	323.8	320.2	306.7	296.6	288.5	276.3	276.9	281.1	282.3	291.4	309.2
40°	314.6	309.6	295.0	283.3	273.9	261.1	260.4	264.8	265.7	274.6	290.7
42.5°	304.9	298.8	282.5	269.6	258.9	245.8	244.4	248.2	249.2	258.0	273.7
45°	295.0	287.8	269.6	255.6	243.8	230.5	229.1	232.0	233.5	241.7	256.9
47.5°	284.6	276.2	256.4	240.7	228.6	215.2	213.5	216.4	217.6	225.7	240.1
50°	273.6	263.4	242.7	225.4	213.4	200.2	197.7	201.1	202.2	209.9	223.9
52.5°	261.6	250.2	228.2	210.1	198.0	185.5	182.5	185.8	187.1	194.5	207.5
55°	248.8	236.6	213.5	195.9	182.9	170.6	168.1	169.4	172.2	179.2	191.3
57.5°	234.5	222.3	198.0	180.2	167.6	155.8	153.7	154.9	157.6	164.4	175.2
60°	219.2	206.4	182.3	164.4	152.2	141.1	139.2	140.3	143.1	149.3	159.4
62.5°	204.2	189.7	166.0	148.2	137.2	126.8	126.3	125.9	128.5	134.6	143.4
65°	185.9	172.0	149.0	132.2	122.1	112.8	110.8	111.7	114.2	119.7	128.9
67.5°	166.3	153.7	131.6	116.1	107.1	98.8	97.1	97.5	100.1	104.9	113.0
70°	145.5	134.5	113.9	99.9	92.4	84.6	83.4	83.5	86.1	90.3	97.3
72.5°	123.7	113.8	95.9	84.0	77.7	72.1	71.1	69.9	72.2	75.8	81.8
75°	101.5	92.8	78.0	68.3	63.4	58.6	57.7	56.5	58.8	62.0	66.7
77.5°	79.1	72.1	60.7	53.1	49.3	45.8	45.0	43.7	46.0	48.3	52.0
80°	57.2	52.1	45.3	37.4	36.1	33.7	32.9	31.5	33.7	35.2	38.1
82.5°	37.0	33.5	29.6	24.1	23.9	22.2	21.8	20.2	22.2	23.1	25.2
85°	18.7	17.1	16.1	12.3	12.7	11.5	11.4	9.7	11.3	11.7	13.0
87.5°	5.3	5.6	5.0	3.0	3.8	3.6	3.6	2.6	3.6	3.6	4.1
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: ORLG-24-2-INS-ASY2R-LD4-1STD-27-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	430.5	430.5	430.5	430.5	430.5	430.5	430.5	430.5
2.5°	430.9	432.6	433.0	432.9	434.0	440.0	438.0	440.0
5°	431.9	435.7	436.7	438.1	439.9	446.8	444.6	447.0
7.5°	432.5	438.2	440.4	443.1	446.1	453.7	451.9	454.3
10°	432.5	439.9	443.1	447.7	451.6	460.4	458.7	461.5
12.5°	430.7	440.2	444.8	451.1	456.1	465.6	464.9	466.9
15°	427.0	438.7	445.0	453.1	459.3	470.0	469.7	472.1
17.5°	422.0	436.1	443.7	453.9	461.7	473.7	474.4	475.7
20°	415.6	431.2	441.0	453.6	463.4	476.6	477.5	479.3
22.5°	407.3	425.3	437.1	452.3	463.6	477.8	479.4	481.1
25°	397.5	418.1	432.0	449.8	462.6	477.7	479.9	481.4
27.5°	386.2	408.9	425.5	445.8	459.8	476.1	478.8	480.6
30°	373.2	399.1	418.0	440.5	456.0	473.1	476.0	477.8
32.5°	359.7	388.2	409.2	433.8	450.5	468.3	470.8	472.2
35°	345.0	375.1	398.6	425.2	443.3	460.5	462.4	463.9
37.5°	329.1	360.8	386.4	415.4	433.3	449.8	451.5	453.2
40°	312.6	345.8	372.8	403.5	421.4	436.6	438.4	439.6
42.5°	296.0	329.3	358.2	389.4	407.2	421.9	423.0	424.2
45°	279.3	312.1	341.8	373.9	391.4	405.2	405.6	406.6
47.5°	262.2	294.3	323.9	356.1	373.5	386.0	386.4	387.2
50°	245.0	276.6	304.7	336.9	353.9	367.1	365.3	366.1
52.5°	228.2	257.9	286.6	316.2	333.0	344.7	345.2	343.6
55°	211.6	239.6	266.0	294.5	310.5	319.6	319.3	319.9
57.5°	194.8	221.1	245.3	271.4	287.0	295.6	297.4	295.3
60°	177.7	202.4	224.1	247.7	262.8	270.0	272.1	270.1
62.5°	160.8	183.5	203.1	223.7	237.7	246.6	246.4	244.2
65°	143.8	164.4	182.0	199.4	211.6	220.5	220.1	218.1
67.5°	128.1	145.1	160.9	175.0	185.6	191.7	193.8	191.4
70°	110.9	125.5	139.4	150.7	159.5	165.0	167.0	164.9
72.5°	93.6	106.0	115.8	126.7	133.5	138.1	140.2	138.2
75°	76.5	86.8	94.7	103.2	108.0	111.9	114.3	112.3
77.5°	60.0	67.9	74.2	80.4	85.9	86.8	88.9	87.6
80°	44.2	49.9	54.5	58.6	62.6	63.0	64.7	63.9
82.5°	29.4	33.2	34.4	38.8	41.3	40.9	42.6	42.0
85°	15.6	17.9	20.0	21.3	22.7	21.4	22.9	22.3
87.5°	5.2	5.5	4.8	6.8	7.5	6.4	7.3	7.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)