

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: P838002

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-1STD-40-120-EDD-90**

Issue Date: 5/21/2024



Test Information

Test Method: LM-79-08
Report Number: P838002
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-40-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

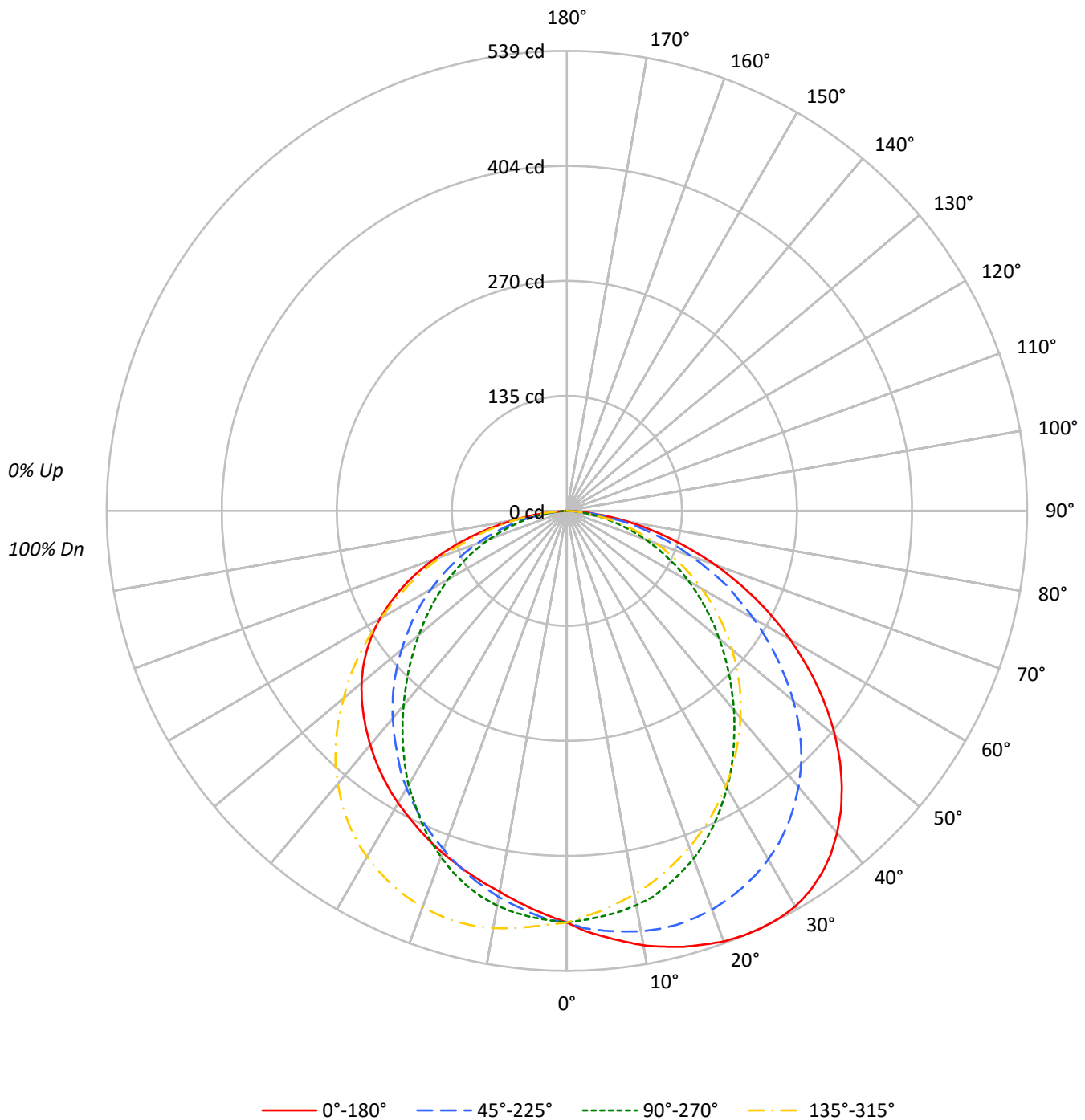
Lumens per Lamp: N/A
Luminaire Lumens: 1414.6 lumens
Efficiency: N/A
Efficacy: 85.2 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	1298	1298	1298	1298
5°	1352	1288	1264	1290
10°	1412	1282	1238	1283
15°	1473	1265	1226	1266
20°	1537	1242	1221	1235
25°	1601	1208	1221	1195
30°	1663	1166	1229	1152
35°	1707	1118	1241	1100
40°	1730	1070	1258	1045
45°	1733	1021	1283	995
50°	1717	974	1314	948
55°	1681	931	1343	905
60°	1628	885	1361	863
65°	1556	833	1354	814
70°	1453	773	1306	758
75°	1307	688	1199	685
80°	1108	576	1007	586
85°	772	383	639	392

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.8	3.2
10°-20°	132.6	9.4
20°-30°	203.2	14.4
30°-40°	247.0	17.5
40°-50°	256.8	18.2
50°-60°	232.0	16.4
60°-70°	176.4	12.5
70°-80°	98.3	7.0
80°-90°	22.6	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°	381.5	27.0
0°-40°	628.5	44.4
0°-60°	1117.3	79.0
0°-90°	1414.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1414.6	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	482	482	482	482	482	
5°	501	477	468	478	501	48
15°	529	454	440	454	529	150
25°	539	407	411	402	539	249
35°	520	340	378	335	520	325
45°	455	268	337	262	455	351
55°	358	198	286	193	358	320
65°	244	131	213	128	244	241
75°	126	66	115	66	126	134
85°	25	12	21	13	25	31
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°	482.2	482.2	482.2	482.2	482.2	482.2	482.2	482.2	482.2	482.2	482.2
2.5°	492.8	485.6	485.8	492.1	487.2	489.6	482.8	485.4	484.6	485.2	479.7
5°	500.6	492.8	492.7	498.1	492.7	493.7	485.2	486.9	484.4	482.8	476.9
7.5°	508.8	501.0	500.3	505.0	497.9	497.1	487.7	487.7	483.2	479.2	473.6
10°	516.9	508.9	507.9	511.5	502.7	500.1	488.7	486.9	480.9	475.1	469.0
12.5°	523.0	514.9	514.1	516.3	506.4	501.7	488.7	485.2	476.4	468.2	463.5
15°	528.7	520.4	518.3	519.4	508.0	501.7	487.1	481.7	470.5	459.7	454.2
17.5°	532.8	524.8	522.6	522.5	508.8	499.8	483.7	476.3	462.8	449.8	444.3
20°	536.8	528.8	526.1	524.1	508.6	497.2	478.8	468.8	453.0	438.4	433.8
22.5°	538.8	530.6	527.7	524.7	507.1	492.5	472.7	460.0	442.0	424.6	420.7
25°	539.2	530.7	527.6	523.2	504.2	486.9	464.8	449.4	429.3	409.9	406.7
27.5°	538.3	529.1	525.9	520.6	499.8	480.0	455.5	437.4	415.8	394.4	390.9
30°	535.1	525.8	522.8	515.9	493.6	471.6	445.3	424.0	400.8	378.1	375.1
32.5°	528.8	519.7	517.2	510.4	486.9	461.8	433.3	409.6	384.3	362.6	358.1
35°	519.6	510.5	508.9	501.7	477.4	450.1	420.3	393.9	366.8	344.6	340.2
37.5°	507.6	499.9	497.6	490.5	466.3	436.8	405.3	376.8	348.9	325.0	322.3
40°	492.4	485.2	483.4	477.1	453.4	422.1	389.1	359.1	330.4	308.3	304.5
42.5°	475.1	468.3	467.3	460.8	437.4	405.8	371.6	340.8	311.2	289.8	286.0
45°	455.4	448.9	448.6	442.5	420.0	387.7	353.2	322.2	292.4	270.3	268.2
47.5°	433.7	427.8	427.8	422.1	400.5	367.8	334.1	302.9	273.5	254.0	250.4
50°	410.1	404.6	402.9	400.1	379.0	346.1	314.1	284.0	254.9	236.2	232.7
52.5°	384.9	380.1	381.3	376.1	355.7	323.5	293.9	262.7	236.1	219.1	215.6
55°	358.3	351.6	352.6	350.7	331.4	300.2	271.2	245.2	217.6	201.7	198.4
57.5°	330.8	322.0	325.6	324.5	305.6	276.3	250.4	225.3	199.3	184.6	181.4
60°	302.5	294.1	297.8	296.8	279.0	252.5	228.9	205.6	181.1	167.7	164.5
62.5°	273.5	265.8	269.1	268.4	252.0	228.1	207.5	186.1	162.7	150.7	147.8
65°	244.3	236.9	239.9	239.3	224.3	206.0	185.6	166.0	144.3	133.8	130.9
67.5°	214.4	207.5	210.3	210.3	196.5	179.1	163.5	145.6	126.2	117.2	114.5
70°	184.7	178.3	180.7	180.5	168.8	154.6	141.3	125.3	107.9	100.4	98.2
72.5°	154.8	149.1	151.4	151.2	141.4	132.3	119.0	105.2	90.0	84.0	82.0
75°	125.7	120.5	122.6	122.4	114.4	105.8	96.9	85.5	72.4	68.3	66.2
77.5°	98.1	92.7	94.5	94.5	88.6	82.4	75.4	66.5	57.2	52.7	51.3
80°	71.5	68.9	68.0	68.2	64.2	60.2	56.6	48.0	41.3	38.2	37.2
82.5°	47.0	44.9	44.0	44.2	42.0	39.5	37.2	31.3	26.8	25.0	24.4
85°	25.0	23.4	22.6	23.2	22.7	21.4	20.2	16.2	13.4	12.7	12.4
87.5°	7.9	6.9	6.3	8.3	7.1	6.3	6.1	4.8	3.7	3.7	3.6
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°	482.2	482.2	482.2	482.2	482.2	482.2	482.2	482.2	482.2	482.2	482.2
2.5°	481.5	481.5	477.1	476.1	475.6	476.2	471.8	471.0	477.3	475.2	470.3
5°	477.7	477.4	471.2	470.1	470.1	469.4	464.5	463.4	469.7	467.9	462.6
7.5°	472.9	472.3	464.9	464.2	463.0	462.6	457.1	456.3	461.7	460.6	455.6
10°	467.2	466.5	457.9	457.3	456.1	455.2	450.0	449.4	454.9	453.1	449.2
12.5°	459.7	458.4	449.5	449.0	448.0	447.6	442.6	442.3	448.4	446.6	442.5
15°	449.8	448.8	438.9	439.1	439.2	439.2	435.1	434.9	440.9	440.1	435.6
17.5°	438.9	437.5	428.1	428.7	429.5	430.4	427.3	427.8	434.1	433.1	429.1
20°	426.5	425.1	415.9	417.8	419.5	421.3	419.3	420.9	426.7	426.3	423.2
22.5°	412.6	411.3	402.8	405.7	408.5	411.9	411.0	412.8	418.9	418.8	416.1
25°	395.8	396.1	388.6	392.2	396.9	401.6	402.0	404.9	411.7	411.1	408.6
27.5°	380.0	380.5	372.5	378.6	384.9	390.9	392.4	396.5	403.4	402.9	400.7
30°	363.5	364.1	356.3	364.6	372.3	379.7	382.8	388.4	395.4	395.4	393.2
32.5°	346.3	347.3	339.2	350.3	359.2	367.9	373.4	379.1	387.2	387.0	385.1
35°	328.6	329.8	322.3	336.5	345.4	356.0	362.8	370.5	377.7	377.8	376.3
37.5°	310.6	312.0	305.2	320.8	330.9	343.4	352.1	359.8	367.8	368.2	366.9
40°	292.8	294.2	288.4	303.3	316.2	330.1	340.2	349.2	358.0	358.2	357.3
42.5°	274.9	276.4	272.1	286.7	301.2	316.2	328.1	338.3	347.3	347.9	346.9
45°	257.4	258.8	255.6	271.6	285.6	301.9	315.6	327.2	336.3	337.1	336.7
47.5°	240.1	241.4	238.5	253.2	269.3	286.6	302.4	315.3	324.9	325.8	325.6
50°	223.1	224.2	221.1	236.4	252.4	270.8	287.4	302.2	313.0	313.9	313.8
52.5°	206.3	207.3	204.7	220.8	235.3	254.7	272.7	288.8	299.5	300.9	301.1
55°	190.0	190.4	188.4	203.8	217.9	238.2	258.9	274.5	285.2	286.3	287.0
57.5°	173.7	173.8	172.1	186.8	200.3	221.1	242.8	259.2	269.4	270.5	271.5
60°	157.5	157.3	155.4	169.7	182.6	203.2	225.8	242.1	251.9	252.9	254.3
62.5°	141.4	141.0	139.3	152.5	164.7	185.0	207.7	223.5	232.8	233.5	235.3
65°	125.4	125.1	123.5	135.6	146.7	166.1	188.4	203.3	211.8	212.7	212.3
67.5°	109.7	109.0	107.7	118.7	128.7	146.7	168.0	182.3	189.3	190.1	192.2
70°	93.9	93.1	90.3	101.9	110.7	126.8	146.7	159.4	165.2	166.0	165.7
72.5°	78.4	77.6	74.6	85.3	92.7	106.7	124.5	135.1	140.1	140.8	140.8
75°	63.3	62.9	61.0	69.1	75.2	86.7	101.8	110.6	114.5	115.3	115.1
77.5°	48.8	48.5	46.6	53.5	58.4	66.9	79.1	85.9	88.9	89.8	91.7
80°	35.0	34.9	31.8	38.7	40.8	48.0	56.9	62.2	63.8	65.0	66.4
82.5°	22.4	22.5	19.5	25.3	26.2	30.8	36.3	39.6	40.7	41.7	42.7
85°	10.9	11.4	9.7	13.4	13.5	15.9	18.2	19.5	19.9	20.7	21.6
87.5°	2.8	3.3	1.8	3.8	3.4	4.4	5.1	5.4	5.3	5.8	6.2
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	482.2	482.2	482.2	482.2	482.2	482.2	482.2	482.2	482.2	482.2	482.2
2.5°	471.9	475.5	473.7	479.6	481.8	478.2	484.5	484.6	480.1	485.4	488.3
5°	464.6	468.3	467.2	473.3	476.1	472.9	480.6	482.0	477.7	483.6	488.3
7.5°	457.2	461.6	460.1	466.3	469.7	467.2	475.4	477.8	474.4	480.9	487.2
10°	450.8	454.5	452.9	459.4	462.4	460.3	468.4	472.8	469.7	477.7	485.2
12.5°	444.5	447.5	445.7	451.1	453.9	451.3	461.2	465.3	463.0	471.4	481.0
15°	436.4	439.8	437.3	442.1	444.3	442.0	450.1	457.1	454.3	463.4	474.1
17.5°	430.2	432.1	428.7	432.6	433.8	430.8	439.0	445.8	443.8	453.7	466.1
20°	423.3	424.9	420.2	422.3	422.2	418.4	425.9	432.7	431.3	442.2	456.3
22.5°	415.7	416.5	411.0	411.4	411.2	404.9	411.6	418.5	417.9	429.0	444.7
25°	407.6	407.7	400.6	400.4	397.9	390.5	396.5	404.2	402.5	414.4	431.0
27.5°	399.6	398.5	389.9	387.9	384.0	375.1	380.4	387.3	386.3	398.0	416.4
30°	391.1	389.6	379.1	375.4	369.7	359.5	363.8	370.4	370.9	381.2	400.4
32.5°	383.0	379.2	367.7	362.3	355.1	343.1	345.5	352.1	353.0	363.4	383.2
35°	372.5	370.0	355.7	346.5	339.4	326.4	328.9	333.5	334.8	344.9	365.1
37.5°	362.6	358.7	343.5	332.2	323.1	309.4	310.1	314.8	316.2	326.4	346.3
40°	352.4	346.7	330.4	317.3	306.8	292.4	291.6	296.6	297.6	307.6	325.6
42.5°	341.5	334.7	316.4	302.0	289.9	275.3	273.7	278.0	279.1	288.9	306.6
45°	330.4	322.3	302.0	286.2	273.1	258.1	256.5	259.8	261.5	270.7	287.7
47.5°	318.7	309.3	287.1	269.6	256.0	241.0	239.1	242.4	243.7	252.8	268.9
50°	306.5	295.0	271.8	252.5	239.0	224.3	221.5	225.3	226.5	235.1	250.8
52.5°	293.0	280.3	255.5	235.3	221.8	207.7	204.4	208.1	209.5	217.9	232.4
55°	278.7	265.0	239.1	219.4	204.8	191.1	188.3	189.7	192.9	200.8	214.3
57.5°	262.6	249.0	221.8	201.8	187.7	174.6	172.2	173.5	176.5	184.1	196.3
60°	245.5	231.1	204.1	184.1	170.5	158.0	155.9	157.1	160.3	167.2	178.5
62.5°	228.6	212.5	185.9	166.0	153.6	142.0	141.5	141.0	144.0	150.7	160.6
65°	208.2	192.7	166.9	148.0	136.8	126.3	124.1	125.1	127.9	134.1	144.4
67.5°	186.2	172.2	147.4	130.0	120.0	110.7	108.8	109.2	112.1	117.5	126.5
70°	163.0	150.6	127.5	111.9	103.5	94.7	93.5	93.6	96.4	101.1	109.0
72.5°	138.6	127.4	107.4	94.0	87.1	80.8	79.6	78.3	80.9	84.9	91.7
75°	113.7	103.9	87.4	76.5	71.0	65.7	64.7	63.3	65.9	69.4	74.7
77.5°	88.6	80.8	67.9	59.5	55.2	51.3	50.4	48.9	51.5	54.1	58.3
80°	64.1	58.4	50.7	41.8	40.4	37.8	36.9	35.3	37.8	39.5	42.6
82.5°	41.4	37.6	33.2	27.0	26.8	24.9	24.4	22.6	24.9	25.9	28.2
85°	20.9	19.1	18.0	13.7	14.2	12.9	12.8	10.9	12.7	13.2	14.5
87.5°	6.0	6.3	5.6	3.4	4.3	4.0	4.0	2.9	4.0	4.0	4.6
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):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	482.2	482.2	482.2	482.2	482.2	482.2	482.2	482.2
2.5°	482.6	484.5	485.0	484.9	486.1	492.8	490.6	492.8
5°	483.7	488.0	489.1	490.7	492.7	500.4	497.9	500.6
7.5°	484.4	490.8	493.3	496.3	499.6	508.1	506.1	508.8
10°	484.4	492.7	496.3	501.4	505.8	515.7	513.8	516.9
12.5°	482.4	493.1	498.1	505.2	510.8	521.5	520.7	523.0
15°	478.2	491.4	498.4	507.5	514.4	526.4	526.0	528.7
17.5°	472.6	488.5	496.9	508.4	517.1	530.5	531.3	532.8
20°	465.5	482.9	494.0	508.0	519.0	533.8	534.8	536.8
22.5°	456.2	476.3	489.6	506.6	519.3	535.1	536.9	538.8
25°	445.2	468.3	483.8	503.7	518.1	535.0	537.5	539.2
27.5°	432.6	458.0	476.5	499.3	515.0	533.2	536.3	538.3
30°	417.9	447.0	468.2	493.4	510.7	529.8	533.1	535.1
32.5°	402.9	434.8	458.3	485.9	504.5	524.4	527.3	528.8
35°	386.4	420.1	446.4	476.2	496.6	515.8	517.9	519.6
37.5°	368.6	404.1	432.8	465.3	485.3	503.7	505.7	507.6
40°	350.1	387.3	417.5	451.9	471.9	489.0	491.0	492.4
42.5°	331.6	368.8	401.2	436.2	456.1	472.5	473.7	475.1
45°	312.8	349.6	382.8	418.7	438.4	453.8	454.3	455.4
47.5°	293.7	329.6	362.7	398.8	418.3	432.3	432.8	433.7
50°	274.4	309.7	341.2	377.3	396.3	411.2	409.2	410.1
52.5°	255.5	288.8	321.0	354.2	372.9	386.1	386.7	384.9
55°	237.0	268.4	297.9	329.9	347.8	358.0	357.7	358.3
57.5°	218.2	247.7	274.8	304.0	321.4	331.1	333.1	330.8
60°	199.1	226.7	251.0	277.5	294.3	302.4	304.8	302.5
62.5°	180.1	205.5	227.5	250.6	266.2	276.2	276.0	273.5
65°	161.1	184.1	203.8	223.4	237.0	247.0	246.5	244.3
67.5°	143.5	162.5	180.2	196.0	207.8	214.7	217.1	214.4
70°	124.2	140.6	156.1	168.8	178.6	184.8	187.0	184.7
72.5°	104.8	118.8	129.7	141.9	149.5	154.6	157.0	154.8
75°	85.7	97.2	106.1	115.6	120.9	125.3	128.0	125.7
77.5°	67.1	76.0	83.1	90.1	96.2	97.2	99.5	98.1
80°	49.5	55.9	61.1	65.7	70.1	70.5	72.4	71.5
82.5°	33.0	37.2	38.6	43.4	46.2	45.8	47.7	47.0
85°	17.4	20.0	22.4	23.8	25.4	24.0	25.6	25.0
87.5°	5.8	6.2	5.4	7.6	8.4	7.2	8.2	7.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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