

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: P837932

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-2LO-20-120-EDD-90**

Issue Date: 5/21/2024



Test Information

Test Method: LM-79-08
Report Number: P837932
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-LD4-2LO-20-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 2000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

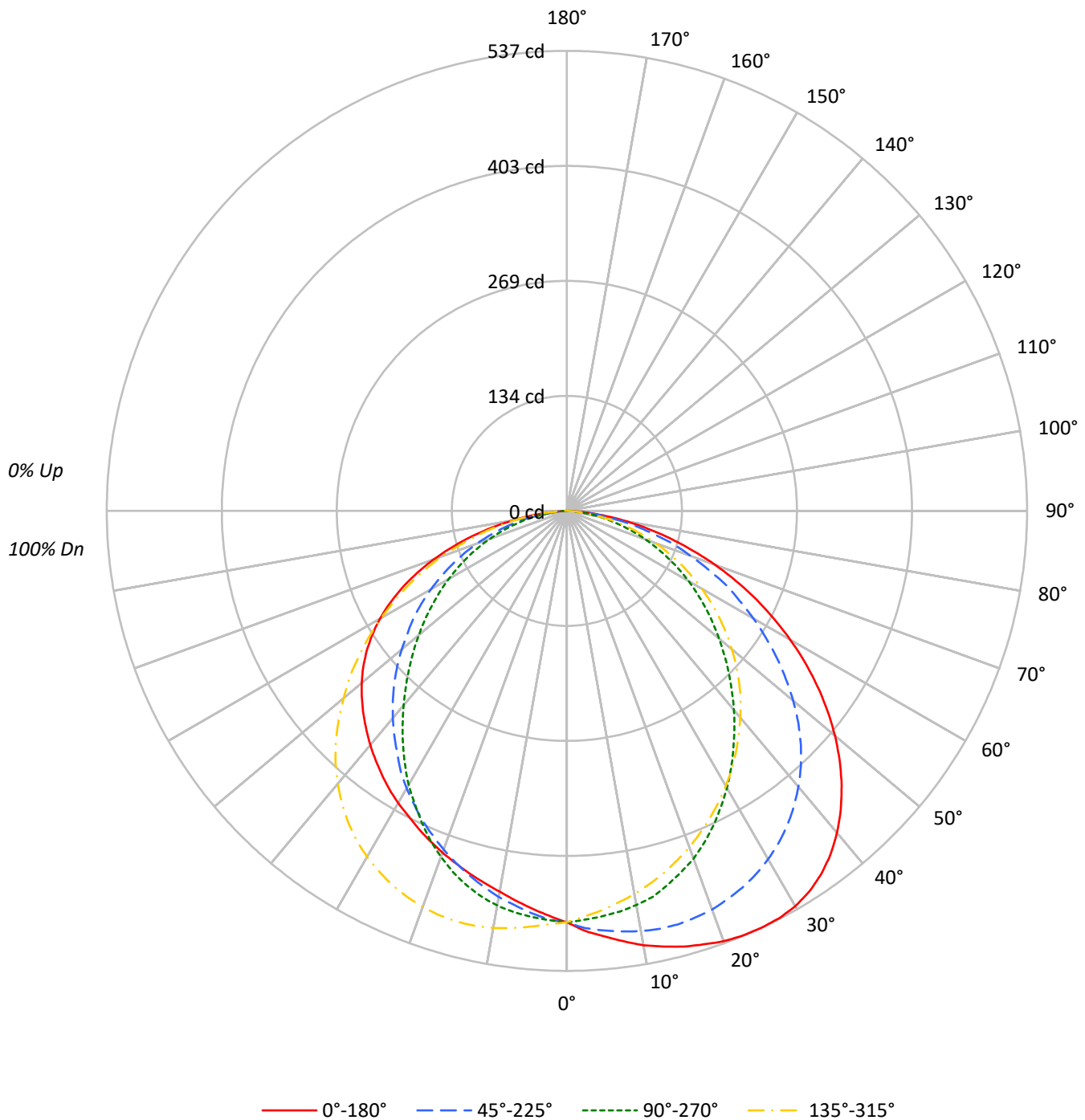
Lumens per Lamp: N/A
Luminaire Lumens: 1408.8 lumens
Efficiency: N/A
Efficacy: 60.2 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	109	104	100	96	106	102	98	94	97	94	91		94	91	89		90
2	99	91	84	78	96	89	82	77	85	80	75		82	77	73		79
3	90	79	71	65	88	78	70	64	75	68	63		72	66	62		69
4	82	70	61	55	80	69	61	54	66	59	53		64	58	53		62
5	76	63	54	47	74	62	53	47	59	52	46		57	51	46		56
6	70	56	47	41	68	55	47	41	54	46	40		52	45	40		50
7	65	51	42	36	63	50	42	36	49	41	36		47	40	35		46
8	60	47	38	32	59	46	38	32	45	37	32		43	37	32		42
9	56	43	34	29	55	42	34	29	41	34	29		40	33	28		39
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		36

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	1292	1292	1292	1292
5°	1347	1283	1259	1285
10°	1407	1276	1233	1278
15°	1467	1260	1221	1260
20°	1531	1237	1216	1230
25°	1594	1203	1216	1190
30°	1656	1161	1224	1148
35°	1700	1113	1236	1096
40°	1723	1065	1253	1041
45°	1726	1016	1278	991
50°	1710	970	1309	944
55°	1674	927	1338	901
60°	1622	882	1356	859
65°	1549	830	1349	811
70°	1447	769	1301	755
75°	1302	686	1194	682
80°	1103	575	1003	583
85°	769	380	636	392



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.6	3.2
10°-20°	132.0	9.4
20°-30°	202.3	14.4
30°-40°	246.0	17.5
40°-50°	255.7	18.2
50°-60°	231.0	16.4
60°-70°	175.6	12.5
70°-80°	97.9	7.0
80°-90°	22.5	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°	379.9	27.0
0°-40°	626.0	44.4
0°-60°	1112.7	79.0
0°-90°	1408.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1408.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	480	480	480	480	480	
5°	499	475	466	476	499	48
15°	527	452	438	452	527	149
25°	537	405	409	401	537	248
35°	518	339	376	334	518	323
45°	454	267	336	260	454	349
55°	357	198	285	192	357	319
65°	243	130	212	127	243	240
75°	125	66	115	66	125	133
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°	480.2	480.2	480.2	480.2	480.2	480.2	480.2	480.2	480.2	480.2	480.2
2.5°	490.8	483.7	483.8	490.0	485.2	487.6	480.9	483.4	482.7	483.2	477.7
5°	498.6	490.8	490.7	496.1	490.7	491.7	483.2	484.9	482.4	480.9	474.9
7.5°	506.7	499.0	498.2	502.9	495.9	495.1	485.7	485.7	481.2	477.3	471.7
10°	514.8	506.8	505.8	509.4	500.7	498.1	486.7	484.9	479.0	473.1	467.1
12.5°	520.8	512.8	512.0	514.2	504.4	499.7	486.7	483.2	474.5	466.3	461.6
15°	526.6	518.3	516.1	517.3	505.9	499.7	485.1	479.7	468.5	457.8	452.3
17.5°	530.6	522.6	520.5	520.4	506.7	497.8	481.8	474.4	460.9	447.9	442.4
20°	534.6	526.7	524.0	522.0	506.5	495.2	476.8	466.9	451.2	436.6	432.0
22.5°	536.6	528.5	525.5	522.5	505.1	490.5	470.8	458.1	440.2	422.8	419.0
25°	537.0	528.6	525.4	521.1	502.1	484.9	462.9	447.6	427.5	408.3	405.0
27.5°	536.1	526.9	523.8	518.5	497.8	478.1	453.6	435.6	414.1	392.8	389.3
30°	532.9	523.6	520.6	513.8	491.6	469.7	443.4	422.3	399.2	376.6	373.6
32.5°	526.7	517.6	515.1	508.3	484.9	459.9	431.6	407.9	382.7	361.1	356.6
35°	517.5	508.4	506.8	499.7	475.5	448.3	418.6	392.3	365.3	343.2	338.8
37.5°	505.5	497.9	495.5	488.5	464.4	435.0	403.7	375.2	347.5	323.7	321.0
40°	490.4	483.2	481.4	475.1	451.5	420.4	387.6	357.6	329.1	307.0	303.2
42.5°	473.1	466.4	465.4	458.9	435.6	404.1	370.1	339.4	309.9	288.6	284.8
45°	453.5	447.0	446.8	440.6	418.2	386.1	351.7	320.9	291.2	269.2	267.1
47.5°	431.9	426.1	426.1	420.4	398.9	366.3	332.8	301.6	272.4	252.9	249.3
50°	408.4	402.9	401.2	398.4	377.5	344.7	312.8	282.8	253.8	235.2	231.7
52.5°	383.3	378.6	379.7	374.6	354.3	322.1	292.7	261.7	235.1	218.2	214.7
55°	356.9	350.1	351.2	349.2	330.1	299.0	270.1	244.2	216.7	200.8	197.6
57.5°	329.4	320.7	324.3	323.1	304.3	275.2	249.3	224.4	198.5	183.8	180.7
60°	301.3	292.9	296.6	295.6	277.9	251.5	227.9	204.8	180.3	167.0	163.9
62.5°	272.4	264.7	268.0	267.3	251.0	227.2	206.7	185.4	162.1	150.1	147.2
65°	243.3	235.9	238.9	238.4	223.3	205.2	184.8	165.3	143.7	133.3	130.4
67.5°	213.5	206.7	209.5	209.5	195.7	178.3	162.9	145.1	125.7	116.7	114.0
70°	183.9	177.5	180.0	179.8	168.1	154.0	140.7	124.8	107.4	100.0	97.8
72.5°	154.1	148.5	150.8	150.5	140.8	131.7	118.5	104.7	89.6	83.7	81.7
75°	125.2	120.0	122.1	121.9	113.9	105.4	96.6	85.1	72.1	68.0	66.0
77.5°	97.7	92.3	94.1	94.1	88.3	82.1	75.0	66.2	57.0	52.5	51.1
80°	71.2	68.7	67.8	67.9	64.0	59.9	56.3	47.8	41.1	38.1	37.1
82.5°	46.8	44.7	43.8	44.0	41.8	39.3	37.1	31.1	26.7	24.9	24.3
85°	24.9	23.3	22.5	23.1	22.6	21.3	20.2	16.1	13.3	12.7	12.3
87.5°	7.8	6.8	6.3	8.3	7.1	6.3	6.0	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°	480.2	480.2	480.2	480.2	480.2	480.2	480.2	480.2	480.2	480.2	480.2
2.5°	479.5	479.5	475.1	474.1	473.7	474.2	469.9	469.1	475.4	473.2	468.4
5°	475.7	475.5	469.3	468.2	468.2	467.5	462.6	461.5	467.8	466.0	460.7
7.5°	471.0	470.3	463.0	462.3	461.1	460.7	455.2	454.4	459.8	458.7	453.8
10°	465.3	464.6	456.0	455.4	454.2	453.3	448.2	447.6	453.1	451.3	447.4
12.5°	457.8	456.6	447.7	447.1	446.1	445.8	440.8	440.5	446.6	444.8	440.6
15°	447.9	446.9	437.1	437.3	437.4	437.4	433.4	433.1	439.1	438.3	433.8
17.5°	437.1	435.7	426.3	427.0	427.8	428.7	425.5	426.1	432.4	431.3	427.3
20°	424.7	423.4	414.2	416.1	417.8	419.6	417.6	419.1	425.0	424.5	421.5
22.5°	411.0	409.6	401.1	404.0	406.8	410.2	409.3	411.1	417.2	417.1	414.4
25°	394.2	394.5	387.0	390.6	395.3	400.0	400.3	403.2	410.1	409.4	406.9
27.5°	378.5	378.9	371.0	377.0	383.3	389.3	390.8	394.8	401.8	401.2	399.1
30°	362.0	362.6	354.8	363.1	370.8	378.1	381.3	386.8	393.8	393.8	391.6
32.5°	344.9	345.9	337.8	348.9	357.8	366.4	371.9	377.6	385.6	385.4	383.5
35°	327.3	328.4	321.0	335.1	344.0	354.5	361.3	369.0	376.1	376.2	374.8
37.5°	309.4	310.7	304.0	319.5	329.5	342.0	350.7	358.3	366.3	366.7	365.4
40°	291.6	293.0	287.2	302.1	314.9	328.7	338.8	347.8	356.5	356.8	355.9
42.5°	273.8	275.3	271.0	285.5	300.0	314.9	326.7	336.9	345.9	346.4	345.4
45°	256.4	257.7	254.6	270.5	284.4	300.6	314.3	325.8	334.9	335.7	335.4
47.5°	239.1	240.4	237.6	252.1	268.2	285.4	301.2	314.0	323.6	324.5	324.3
50°	222.2	223.2	220.2	235.4	251.3	269.7	286.2	301.0	311.7	312.6	312.5
52.5°	205.4	206.4	203.9	219.9	234.3	253.7	271.6	287.6	298.3	299.6	299.9
55°	189.2	189.6	187.6	203.0	217.0	237.2	257.8	273.4	284.1	285.2	285.8
57.5°	172.9	173.1	171.4	186.0	199.5	220.2	241.8	258.2	268.3	269.4	270.4
60°	156.8	156.7	154.8	169.0	181.9	202.4	224.9	241.2	250.9	251.9	253.3
62.5°	140.8	140.5	138.8	151.9	164.0	184.3	206.9	222.6	231.9	232.5	234.3
65°	124.9	124.6	123.0	135.1	146.1	165.4	187.6	202.5	210.9	211.8	211.5
67.5°	109.2	108.5	107.3	118.2	128.1	146.1	167.3	181.6	188.5	189.3	191.4
70°	93.5	92.7	89.9	101.5	110.2	126.2	146.1	158.7	164.5	165.3	165.0
72.5°	78.1	77.3	74.3	84.9	92.3	106.3	124.0	134.5	139.6	140.2	140.2
75°	63.1	62.6	60.7	68.8	74.9	86.4	101.4	110.1	114.0	114.8	114.6
77.5°	48.6	48.3	46.4	53.3	58.1	66.6	78.7	85.6	88.5	89.4	91.3
80°	34.8	34.7	31.7	38.5	40.7	47.8	56.7	61.9	63.5	64.7	66.1
82.5°	22.3	22.4	19.4	25.2	26.1	30.7	36.2	39.4	40.5	41.6	42.6
85°	10.9	11.3	9.6	13.3	13.4	15.8	18.1	19.4	19.8	20.6	21.5
87.5°	2.8	3.2	1.8	3.8	3.4	4.4	5.0	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°	480.2	480.2	480.2	480.2	480.2	480.2	480.2	480.2	480.2	480.2	480.2
2.5°	470.0	473.6	471.8	477.6	479.8	476.3	482.5	482.7	478.2	483.4	486.3
5°	462.7	466.4	465.3	471.3	474.1	471.0	478.6	480.1	475.7	481.6	486.3
7.5°	455.3	459.7	458.2	464.4	467.8	465.3	473.5	475.8	472.5	479.0	485.2
10°	448.9	452.6	451.1	457.6	460.5	458.5	466.5	470.9	467.8	475.7	483.2
12.5°	442.7	445.7	443.9	449.3	452.1	449.5	459.4	463.4	461.1	469.4	479.1
15°	434.6	438.0	435.5	440.3	442.4	440.2	448.3	455.2	452.4	461.5	472.1
17.5°	428.4	430.3	427.0	430.8	432.0	429.0	437.2	444.0	442.0	451.8	464.2
20°	421.6	423.2	418.5	420.6	420.5	416.7	424.2	430.9	429.6	440.4	454.4
22.5°	414.0	414.8	409.3	409.7	409.5	403.2	410.0	416.8	416.2	427.2	442.9
25°	405.9	406.0	399.0	398.8	396.3	388.9	394.8	402.6	400.9	412.8	429.2
27.5°	398.0	396.9	388.3	386.3	382.4	373.6	378.8	385.8	384.8	396.4	414.7
30°	389.5	388.0	377.6	373.9	368.2	358.0	362.4	368.8	369.4	379.6	398.8
32.5°	381.4	377.7	366.2	360.8	353.6	341.7	344.1	350.7	351.6	361.9	381.6
35°	371.0	368.5	354.3	345.1	338.0	325.1	327.5	332.1	333.5	343.5	363.6
37.5°	361.1	357.2	342.1	330.9	321.8	308.1	308.8	313.5	314.9	325.1	344.9
40°	350.9	345.3	329.1	316.0	305.6	291.2	290.4	295.4	296.4	306.3	324.3
42.5°	340.1	333.3	315.1	300.7	288.8	274.2	272.6	276.9	278.0	287.8	305.3
45°	329.1	321.0	300.7	285.1	272.0	257.1	255.5	258.7	260.4	269.6	286.5
47.5°	317.4	308.0	286.0	268.5	254.9	240.0	238.1	241.4	242.7	251.8	267.8
50°	305.2	293.8	270.7	251.5	238.0	223.3	220.5	224.4	225.6	234.1	249.8
52.5°	291.8	279.1	254.5	234.3	220.9	206.9	203.5	207.2	208.7	217.0	231.4
55°	277.6	263.9	238.1	218.5	204.0	190.3	187.5	189.0	192.1	199.9	213.4
57.5°	261.5	248.0	220.9	200.9	186.9	173.8	171.5	172.8	175.7	183.4	195.5
60°	244.5	230.2	203.3	183.4	169.8	157.4	155.2	156.5	159.6	166.6	177.8
62.5°	227.7	211.6	185.2	165.3	153.0	141.5	140.9	140.5	143.4	150.1	159.9
65°	207.3	191.9	166.2	147.4	136.2	125.8	123.5	124.6	127.4	133.5	143.8
67.5°	185.5	171.5	146.8	129.5	119.5	110.2	108.3	108.8	111.7	117.1	126.0
70°	162.3	150.0	127.0	111.4	103.0	94.3	93.1	93.2	96.0	100.7	108.5
72.5°	138.0	126.9	107.0	93.6	86.7	80.4	79.3	78.0	80.5	84.6	91.3
75°	113.2	103.5	87.0	76.2	70.7	65.4	64.4	63.1	65.6	69.1	74.4
77.5°	88.3	80.4	67.7	59.3	55.0	51.1	50.2	48.7	51.3	53.9	58.0
80°	63.8	58.1	50.5	41.7	40.2	37.6	36.7	35.2	37.6	39.3	42.5
82.5°	41.2	37.4	33.0	26.9	26.7	24.8	24.3	22.5	24.8	25.8	28.1
85°	20.8	19.0	17.9	13.7	14.1	12.9	12.8	10.9	12.7	13.1	14.4
87.5°	5.9	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°	480.2	480.2	480.2	480.2	480.2	480.2	480.2	480.2
2.5°	480.6	482.5	483.0	482.9	484.1	490.8	488.6	490.8
5°	481.8	486.0	487.1	488.7	490.7	498.3	495.9	498.6
7.5°	482.4	488.8	491.3	494.3	497.5	506.1	504.0	506.7
10°	482.4	490.7	494.3	499.3	503.7	513.6	511.7	514.8
12.5°	480.4	491.1	496.1	503.1	508.7	519.4	518.6	520.8
15°	476.3	489.4	496.3	505.4	512.3	524.2	523.9	526.6
17.5°	470.7	486.5	494.9	506.3	515.0	528.4	529.1	530.6
20°	463.6	481.0	491.9	505.9	516.9	531.6	532.6	534.6
22.5°	454.3	474.4	487.6	504.5	517.1	532.9	534.7	536.6
25°	443.3	466.4	481.9	501.7	516.0	532.8	535.3	537.0
27.5°	430.8	456.1	474.6	497.2	512.9	531.0	534.1	536.1
30°	416.2	445.1	466.3	491.4	508.6	527.7	530.9	532.9
32.5°	401.2	433.0	456.4	483.9	502.5	522.3	525.1	526.7
35°	384.9	418.4	444.6	474.2	494.5	513.7	515.8	517.5
37.5°	367.1	402.5	431.0	463.4	483.3	501.7	503.6	505.5
40°	348.7	385.8	415.8	450.1	470.0	487.0	489.0	490.4
42.5°	330.2	367.3	399.5	434.4	454.2	470.6	471.8	473.1
45°	311.5	348.1	381.3	417.0	436.6	452.0	452.4	453.5
47.5°	292.5	328.3	361.2	397.2	416.6	430.6	431.0	431.9
50°	273.3	308.5	339.8	375.8	394.7	409.5	407.5	408.4
52.5°	254.5	287.6	319.7	352.7	371.4	384.5	385.1	383.3
55°	236.0	267.3	296.7	328.5	346.3	356.5	356.2	356.9
57.5°	217.3	246.6	273.6	302.8	320.1	329.8	331.8	329.4
60°	198.3	225.8	250.0	276.3	293.1	301.2	303.5	301.3
62.5°	179.3	204.6	226.6	249.6	265.1	275.1	274.9	272.4
65°	160.4	183.4	203.0	222.5	236.0	246.0	245.5	243.3
67.5°	142.9	161.9	179.4	195.2	207.0	213.8	216.2	213.5
70°	123.7	140.0	155.5	168.1	177.9	184.0	186.3	183.9
72.5°	104.4	118.3	129.1	141.4	148.9	154.0	156.4	154.1
75°	85.4	96.8	105.6	115.1	120.4	124.8	127.5	125.2
77.5°	66.9	75.7	82.8	89.7	95.8	96.8	99.1	97.7
80°	49.3	55.7	60.8	65.4	69.8	70.2	72.1	71.2
82.5°	32.8	37.1	38.4	43.2	46.0	45.6	47.5	46.8
85°	17.4	19.9	22.3	23.7	25.3	23.9	25.5	24.9
87.5°	5.8	6.2	5.4	7.6	8.4	7.2	8.2	7.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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