

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: LUMARK

Report Number: P195746

Luminaire Tested: **NAV-AF-02-D-UNV-SLR-7050-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195746
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24264)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-02-D-UNV-SLR-7050-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT
ELIMINATOR RIGHT OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7088 lumens
Efficiency: N/A
Efficacy: 107.4 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G2

Input Watts (W): 66
Input Voltage (V): NR
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

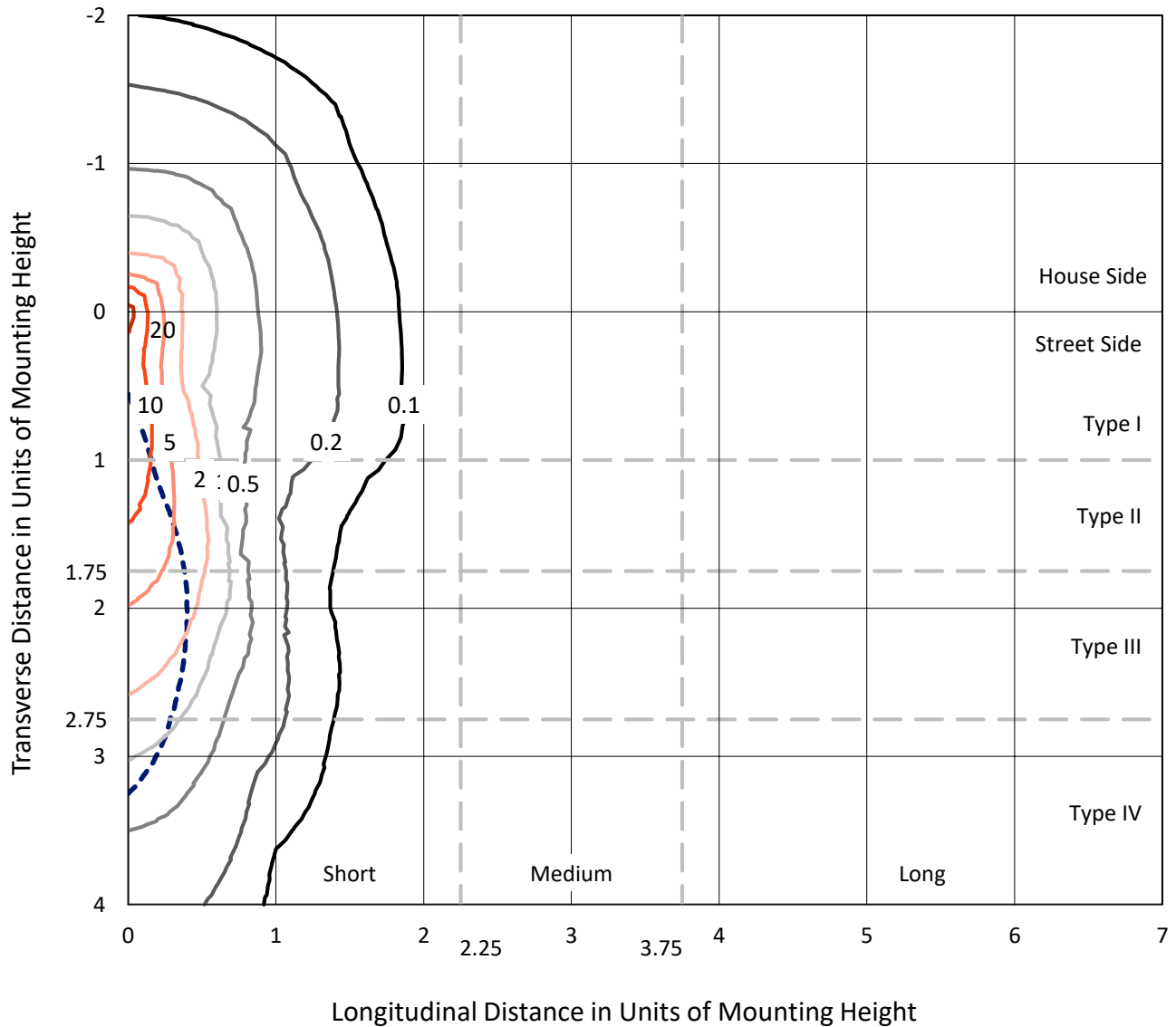


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Iso-Footcandle Lines of Horizontal Illumination

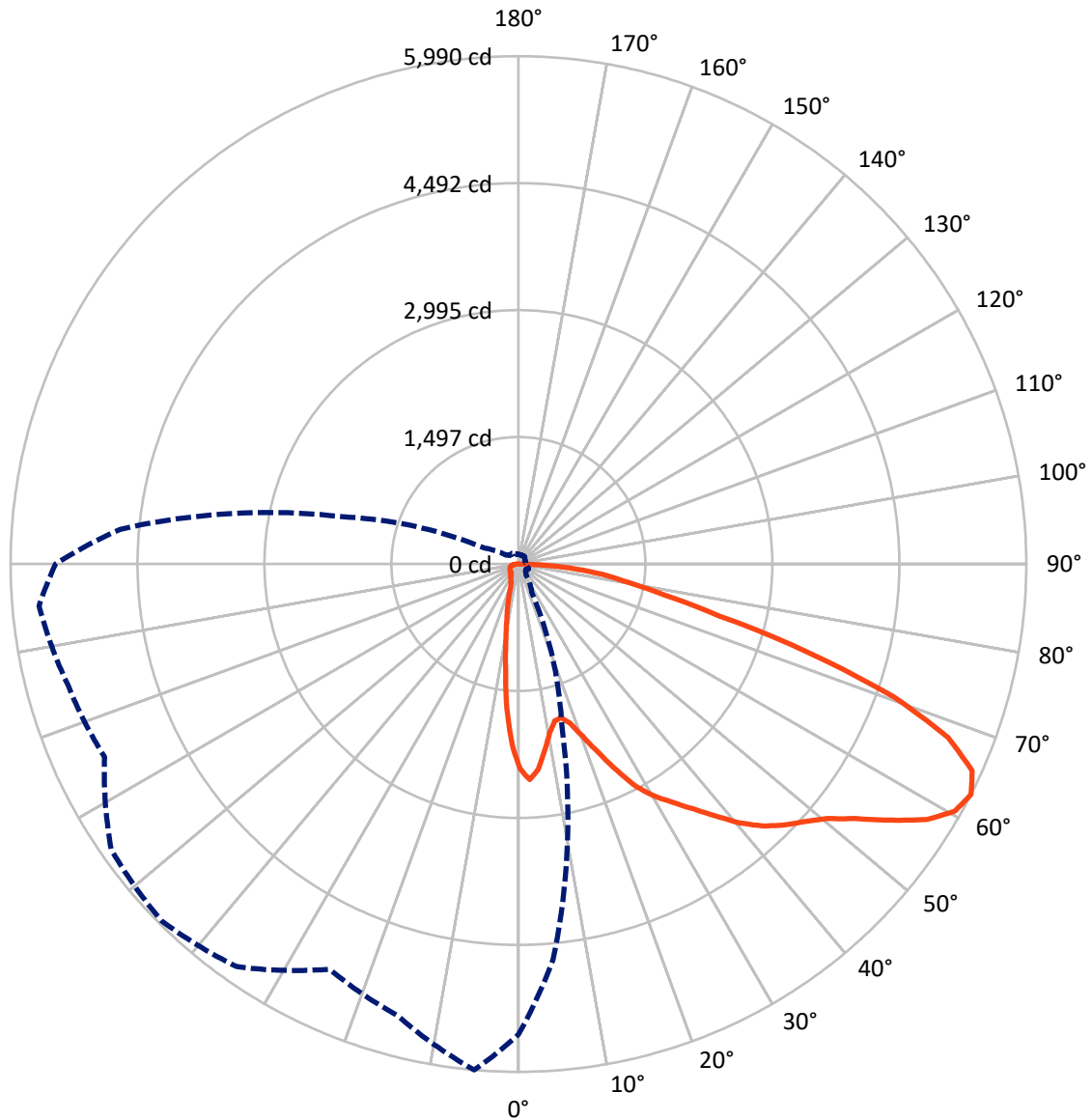
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 24.2 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 355-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1255.7	0.0	1255.7
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	5832.3	0.0	5832.3
	% Fixture	82.3	0.0	82.3
Total	Lumens	7088.0	0.0	7088.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	175.7	2.5
10°-20°	321.0	4.5
20°-30°	461.7	6.5
30°-40°	707.1	10.0
40°-50°	1033.7	14.6
50°-60°	1504.1	21.2
60°-70°	1742.7	24.6
70°-80°	908.5	12.8
80°-90°	233.5	3.3
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°-90°	7088.0	100.0
0°-180°	7088.0	100.0



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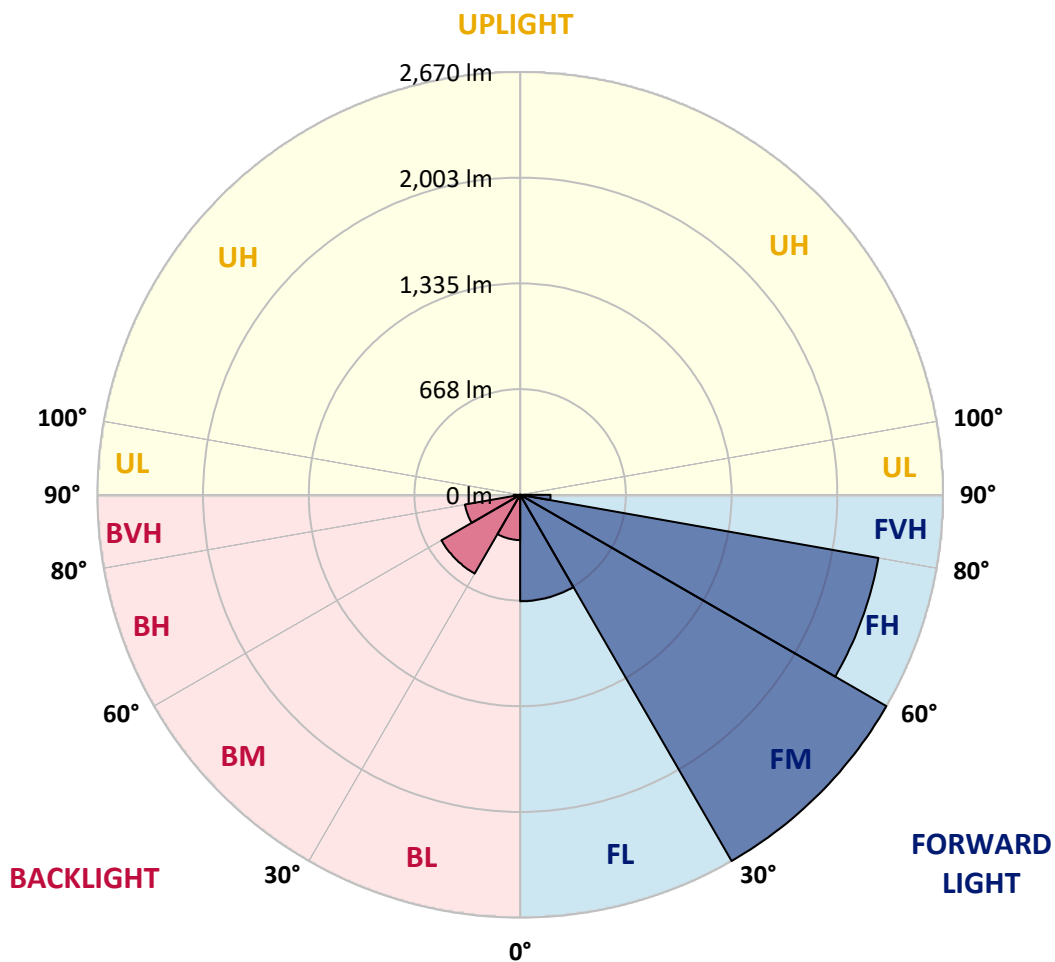
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	672.7	9.5			
FM	(30°-60°)	2670.4	37.7			
FH	(60°-80°)	2297.1	32.4			G2/5000
FVH	(80°-90°)	192.1	2.7			G2/225
BL	(0°-30°)	285.7	4.0	B1/500		
BM	(30°-60°)	574.5	8.1	B1/1000		
BH	(60°-80°)	354.1	5.0	B1/500		G1/500
BVH	(80°-90°)	41.4	0.6			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	2416.4	2416.4	2416.4	2416.4	2416.4	2416.4	2416.4	2416.4	2416.4	2416.4	2416.4
2.5°	2494.6	2459.6	2378.9	2308.0	2219.6	2153.3	2072.6	2030.0	1998.6	1977.6	1960.6
5°	2330.1	2245.8	2091.6	1956.5	1810.5	1705.2	1581.8	1514.5	1472.9	1450.3	1440.0
7.5°	2086.0	1974.5	1775.1	1593.7	1411.2	1279.7	1186.1	1086.4	1033.5	999.1	987.7
10°	1872.7	1746.8	1508.9	1304.8	1164.0	1070.5	990.3	898.8	831.0	771.9	749.8
12.5°	1748.9	1602.4	1331.0	1146.6	1028.3	928.1	843.3	744.7	673.2	611.6	587.9
15°	1722.7	1559.2	1256.5	1045.8	900.9	780.1	678.4	571.0	501.1	450.2	433.7
17.5°	1801.8	1600.3	1225.2	953.8	779.1	631.6	506.2	391.1	333.0	305.3	298.6
20°	1964.7	1690.8	1210.3	871.1	660.9	486.2	350.0	265.7	236.9	228.7	228.2
22.5°	2179.0	1837.8	1226.7	803.3	549.9	358.7	256.4	218.4	206.6	202.0	202.0
25°	2421.1	2036.7	1270.4	751.3	452.2	279.1	221.0	200.4	190.7	186.0	186.6
27.5°	2717.1	2278.7	1330.0	703.6	382.4	244.6	206.6	189.1	179.4	174.7	175.2
30°	2940.1	2486.8	1381.4	659.9	346.4	230.7	198.9	182.4	171.6	165.0	164.5
32.5°	3148.8	2670.3	1423.0	628.5	325.8	206.1	179.9	167.5	158.3	150.6	149.0
35°	3379.5	2843.0	1442.6	627.5	312.5	186.0	164.5	149.6	140.3	131.6	130.0
37.5°	3641.1	3054.2	1459.0	633.7	305.3	173.2	157.3	142.9	135.2	126.4	124.4
40°	3913.5	3260.8	1471.9	638.8	304.2	164.5	151.6	138.8	131.0	121.8	119.7
42.5°	4147.3	3443.8	1489.3	636.7	297.0	162.9	148.0	135.2	128.0	118.7	116.1
45°	4334.4	3589.2	1516.6	636.2	286.3	166.5	147.0	134.1	125.4	115.6	113.6
47.5°	4508.6	3753.1	1574.1	634.2	274.4	165.5	152.6	133.1	124.4	114.6	113.1
50°	4708.0	3973.6	1672.3	618.8	258.0	158.3	162.9	132.1	121.8	113.1	111.5
52.5°	4985.5	4296.4	1817.7	591.0	235.4	150.6	164.5	131.6	117.7	110.0	107.9
55°	5311.9	4642.2	1974.5	550.9	205.6	137.2	156.2	129.5	113.6	105.4	102.3
57.5°	5564.2	4897.6	2083.9	493.4	176.3	129.5	139.3	124.9	108.4	100.2	97.6
60°	5635.1	4908.9	2103.5	424.5	161.4	124.4	119.7	136.2	104.3	95.6	93.0
62.5°	5550.3	4684.4	1976.0	376.2	156.2	119.2	109.0	130.0	100.2	91.5	88.9
65°	5299.0	4305.1	1690.8	369.0	161.4	114.6	103.3	103.8	96.1	87.4	84.8
67.5°	4712.1	3747.0	1332.1	373.6	167.5	110.0	99.2	94.6	91.5	83.8	80.7
70°	3832.3	3016.7	1049.4	381.8	173.2	103.8	94.0	88.4	85.8	77.6	76.1
72.5°	2951.9	2414.4	827.9	376.2	178.8	97.6	86.9	82.2	79.1	71.4	69.9
75°	2096.3	1918.5	608.5	322.7	163.9	88.9	78.6	74.5	71.9	63.7	63.2
77.5°	1510.9	1436.9	423.5	242.6	129.5	78.1	69.4	65.8	64.2	55.0	55.0
80°	1205.1	1093.6	253.4	158.3	94.6	64.8	58.1	56.5	55.0	45.7	46.3
82.5°	866.0	758.5	161.9	98.7	69.4	49.3	45.2	44.7	42.1	33.9	33.9
85°	444.0	387.5	103.8	66.3	48.8	31.9	29.8	28.8	27.2	21.1	21.1
87.5°	86.3	118.7	57.6	32.4	23.6	11.3	11.3	9.8	11.3	7.7	8.2
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°	2416.4	2416.4	2416.4	2416.4	2416.4	2416.4	2416.4	2416.4	2416.4	2416.4	2416.4
2.5°	1993.0	1982.7	1975.5	1971.9	2023.8	2045.4	2070.1	2105.5	2129.7	2119.4	2152.3
5°	1488.3	1495.5	1511.9	1537.6	1610.1	1644.5	1666.6	1695.9	1717.0	1695.9	1730.9
7.5°	1017.6	1028.3	1063.3	1116.2	1203.6	1242.1	1249.8	1250.4	1245.7	1211.3	1234.9
10°	749.3	727.7	735.4	773.4	851.6	886.0	889.6	880.3	878.8	864.9	891.6
12.5°	580.7	550.9	533.4	539.6	598.2	626.5	631.1	636.2	657.3	664.0	696.9
15°	433.2	417.8	405.0	399.3	437.9	460.0	462.5	474.9	497.0	503.1	531.4
17.5°	304.8	308.9	315.5	318.1	345.9	360.3	356.1	356.1	359.7	358.2	374.1
20°	232.8	241.0	253.9	266.2	291.4	299.6	289.3	276.5	268.3	264.2	267.8
22.5°	205.6	211.2	219.4	235.4	256.4	260.6	247.2	236.9	229.2	225.1	225.6
25°	190.7	196.3	203.0	215.8	233.8	235.9	223.6	216.9	210.7	206.6	205.6
27.5°	177.8	181.4	185.5	193.7	212.2	213.3	205.1	200.9	196.8	193.7	192.7
30°	166.0	167.5	169.1	177.3	191.2	192.7	188.6	186.6	185.0	183.0	183.0
32.5°	150.6	152.6	155.2	162.4	175.8	177.8	175.2	173.7	171.1	170.1	168.6
35°	132.1	137.2	142.9	151.6	166.0	167.0	163.9	159.3	153.1	151.6	150.6
37.5°	124.4	125.4	132.6	142.9	157.8	158.8	154.7	147.0	142.4	142.9	143.9
40°	119.2	120.8	124.9	135.2	150.1	151.6	148.0	142.4	137.7	138.2	139.8
42.5°	115.1	117.2	119.7	126.4	141.3	144.4	143.4	138.2	133.6	134.6	136.7
45°	113.1	114.6	114.6	119.2	133.6	138.2	138.8	134.6	131.0	132.1	134.6
47.5°	112.0	112.0	110.5	114.1	128.5	133.1	134.1	132.1	130.0	131.0	133.6
50°	110.5	108.4	106.9	110.0	124.4	128.5	129.5	128.0	129.0	131.0	132.6
52.5°	105.9	103.8	103.8	105.9	120.3	124.4	124.9	123.9	125.9	128.5	131.0
55°	100.2	100.2	100.7	102.8	118.2	121.3	120.8	119.7	121.8	124.9	127.5
57.5°	95.1	94.6	97.1	99.7	115.6	117.7	116.7	116.7	118.2	120.8	123.3
60°	92.0	89.4	91.5	95.6	113.1	115.1	113.6	113.1	115.6	117.7	119.7
62.5°	88.9	86.3	87.9	92.0	109.5	111.0	110.0	110.0	112.5	114.1	116.1
65°	84.3	83.3	84.3	88.4	106.4	106.9	106.9	107.4	109.5	110.5	112.5
67.5°	80.2	80.2	80.7	84.8	103.8	102.8	102.8	105.4	105.9	106.9	109.0
70°	75.0	76.1	76.1	81.2	101.8	98.2	98.7	100.7	101.8	102.8	103.3
72.5°	69.4	69.9	70.9	77.6	98.7	93.5	94.0	95.6	96.1	97.6	98.2
75°	63.2	63.7	65.3	74.0	96.6	88.9	87.9	88.9	89.9	91.0	90.4
77.5°	56.0	57.0	58.6	71.9	89.9	87.9	80.2	81.2	82.2	82.2	81.7
80°	47.3	48.8	51.4	68.9	76.1	84.8	71.4	71.9	72.5	72.5	71.4
82.5°	35.5	38.5	42.1	57.0	59.6	72.5	61.7	62.7	61.2	60.1	59.6
85°	23.1	25.7	30.8	39.6	43.7	57.0	50.9	51.4	48.3	47.8	47.8
87.5°	9.3	9.8	13.9	20.0	26.2	35.5	36.5	37.5	34.9	34.9	36.0
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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CANDELA DISTRIBUTION (continued):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	2416.4	2416.4	2416.4	2416.4	2416.4	2416.4	2416.4	2416.4	2416.4	2416.4	2416.4
2.5°	2202.1	2253.5	2312.6	2372.8	2422.1	2485.8	2547.5	2613.3	2646.7	2666.2	2721.2
5°	1785.3	1855.8	1939.5	2033.6	2111.7	2245.3	2389.2	2549.5	2626.6	2702.7	2846.6
7.5°	1277.1	1346.0	1443.6	1565.4	1676.4	1852.7	2042.3	2259.2	2366.1	2489.4	2725.3
10°	948.2	1021.2	1109.5	1212.8	1322.3	1505.8	1718.5	1962.1	2079.8	2219.1	2487.4
12.5°	768.8	854.1	945.6	1038.1	1132.2	1255.5	1478.5	1749.4	1875.8	2016.1	2284.9
15°	599.7	691.2	789.9	890.6	984.2	1121.9	1349.5	1669.7	1814.1	1949.8	2169.8
17.5°	424.5	510.8	621.8	744.2	879.8	1042.7	1321.8	1704.7	1879.9	2021.8	2169.2
20°	289.3	349.0	460.0	604.9	772.4	979.0	1332.1	1827.5	2046.4	2202.1	2258.2
22.5°	231.3	259.5	334.6	482.1	679.9	932.8	1374.2	1996.1	2285.4	2475.0	2420.0
25°	210.2	226.1	265.2	380.8	597.7	901.9	1456.4	2218.6	2553.1	2745.3	2614.8
27.5°	197.3	211.2	236.4	313.0	526.8	881.9	1560.8	2480.7	2854.8	3012.6	2817.8
30°	189.1	203.0	226.1	281.1	473.3	852.1	1652.2	2720.2	3095.8	3198.1	2927.3
32.5°	173.2	184.0	203.0	251.8	433.2	817.1	1731.4	2934.5	3323.5	3357.4	3058.8
35°	156.7	168.1	187.1	228.2	409.6	789.9	1773.0	3124.6	3549.1	3516.7	3189.4
37.5°	150.6	159.8	177.3	211.2	396.7	771.9	1788.9	3311.7	3791.2	3693.0	3280.3
40°	146.5	154.7	170.1	199.9	393.1	754.9	1785.3	3489.5	4026.0	3875.5	3351.8
42.5°	143.4	150.6	165.0	192.2	383.4	739.0	1773.5	3643.2	4214.1	4032.7	3420.1
45°	140.8	148.5	162.9	196.3	365.4	721.5	1766.3	3783.5	4358.5	4165.3	3511.6
47.5°	139.8	148.5	163.4	195.3	345.9	702.0	1792.0	3939.2	4484.4	4276.8	3633.4
50°	138.2	148.0	174.7	186.0	319.1	677.9	1878.9	4124.7	4616.5	4402.2	3791.2
52.5°	135.7	147.5	186.6	178.8	284.7	644.5	2019.7	4386.8	4844.7	4646.3	4024.5
55°	132.6	148.5	178.3	167.5	248.2	601.3	2160.5	4746.0	5214.7	5040.0	4359.6
57.5°	129.0	147.0	168.6	157.3	217.9	546.8	2267.4	5040.5	5520.0	5446.0	4771.2
60°	126.4	150.6	151.6	151.1	198.4	494.9	2277.7	5021.5	5607.9	5709.6	5174.1
62.5°	123.3	153.7	138.2	146.5	188.6	446.6	2150.7	4710.6	5459.3	5675.7	5502.5
65°	119.2	134.1	131.0	142.4	188.6	420.9	1855.2	4193.1	5048.7	5355.0	5680.8
67.5°	115.1	121.8	125.9	136.7	192.7	396.7	1490.9	3536.8	4401.2	4837.5	5480.4
70°	109.5	115.1	120.3	131.6	190.7	379.8	1173.3	2834.8	3622.1	4121.6	4925.9
72.5°	104.3	108.4	113.6	123.9	190.7	372.1	942.5	2223.7	2765.4	3186.3	4080.5
75°	96.6	100.2	104.8	116.1	187.1	340.2	707.7	1781.8	2023.3	2286.9	3219.7
77.5°	88.9	91.5	95.1	106.4	168.6	284.2	500.6	1379.9	1499.1	1645.1	2510.0
80°	79.1	81.2	83.8	95.1	139.8	220.5	325.8	1079.2	1120.9	1191.3	1651.2
82.5°	67.8	70.9	71.4	81.7	112.5	159.8	193.7	739.5	739.0	842.3	1165.1
85°	55.5	57.0	58.1	64.2	83.3	106.4	127.5	403.9	360.3	504.7	1011.9
87.5°	41.6	40.1	41.6	43.2	55.0	62.7	68.4	74.5	44.7	91.5	588.4
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°	2416.4	2416.4	2416.4	2416.4	2416.4	2416.4	2416.4	2416.4
2.5°	2750.5	2780.8	2762.8	2741.2	2687.3	2608.1	2547.5	2494.6
5°	2946.3	3002.3	2977.6	2897.5	2757.7	2598.9	2431.9	2330.1
7.5°	2921.6	3032.6	3022.9	2889.2	2688.8	2455.0	2220.1	2086.0
10°	2724.3	2880.0	2906.7	2770.0	2557.8	2296.2	2024.3	1872.7
12.5°	2509.5	2640.5	2695.0	2643.1	2443.2	2177.5	1900.5	1748.9
15°	2329.6	2395.9	2449.8	2483.2	2359.4	2135.3	1878.9	1722.7
17.5°	2196.5	2183.6	2228.9	2309.0	2314.2	2191.3	1976.5	1801.8
20°	2132.2	2031.5	2057.7	2170.3	2301.8	2333.7	2171.3	1964.7
22.5°	2128.6	1971.4	1976.5	2097.8	2337.3	2528.0	2414.4	2179.0
25°	2184.1	1964.7	1969.3	2090.1	2400.0	2723.8	2695.5	2421.1
27.5°	2278.7	1993.5	1990.4	2124.0	2483.8	2887.2	2979.2	2717.1
30°	2381.0	2035.1	2027.4	2178.5	2566.0	2987.9	3180.6	2940.1
32.5°	2508.4	2109.1	2082.4	2258.2	2647.2	3084.5	3352.8	3148.8
35°	2629.7	2217.6	2179.0	2372.2	2734.0	3191.9	3545.5	3379.5
37.5°	2753.6	2379.4	2357.9	2536.7	2856.9	3308.6	3766.0	3641.1
40°	2912.4	2609.7	2599.4	2775.7	3020.8	3436.1	4013.2	3913.5
42.5°	3083.5	2854.3	2845.6	3050.1	3224.3	3564.0	4224.9	4147.3
45°	3257.7	3150.8	3152.9	3343.0	3438.6	3684.8	4391.4	4334.4
47.5°	3463.3	3475.1	3548.6	3646.8	3647.3	3819.4	4538.9	4508.6
50°	3724.4	3866.7	4002.4	4017.8	3858.0	3997.3	4719.3	4708.0
52.5°	4019.9	4318.4	4476.2	4427.4	4063.5	4217.7	4986.0	4985.5
55°	4370.9	4790.7	4939.3	4856.0	4309.7	4505.0	5334.5	5311.9
57.5°	4734.7	5245.0	5364.8	5256.3	4617.5	4839.6	5683.9	5564.2
60°	5127.9	5636.1	5757.9	5595.0	4962.9	5173.1	5915.2	5635.1
62.5°	5385.3	5864.8	5952.2	5796.0	5272.3	5512.8	5989.7	5550.3
65°	5398.7	5712.7	5735.8	5680.3	5403.8	5807.8	5881.8	5299.0
67.5°	5031.8	5050.3	5080.6	5140.2	5122.7	5676.2	5465.5	4712.1
70°	4247.0	4000.3	4100.0	4157.6	4287.1	5048.7	4696.2	3832.3
72.5°	3247.4	2887.2	3000.3	2980.7	3250.0	4141.1	3592.8	2951.9
75°	2337.3	1968.8	1977.6	1978.6	2335.2	3305.5	2449.8	2096.3
77.5°	1588.5	1393.2	1422.0	1404.0	1562.8	2589.6	1763.8	1510.9
80°	1086.4	1081.3	1087.4	1045.3	1042.2	1673.8	1305.9	1205.1
82.5°	805.8	744.7	735.9	691.2	798.6	1279.7	991.3	866.0
85°	635.7	412.2	358.2	432.2	691.7	1177.4	604.4	444.0
87.5°	269.3	161.9	98.2	194.3	384.4	862.9	167.5	86.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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