

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: P195752

Luminaire Tested: **NAV-AF-02-D-UNV-SLR-7050-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195752
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-7050-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5000K, 800mA 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: 8692 lumens
Efficiency: N/A
Efficacy: 102.3 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 - G3

Input Watts (W): 85
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

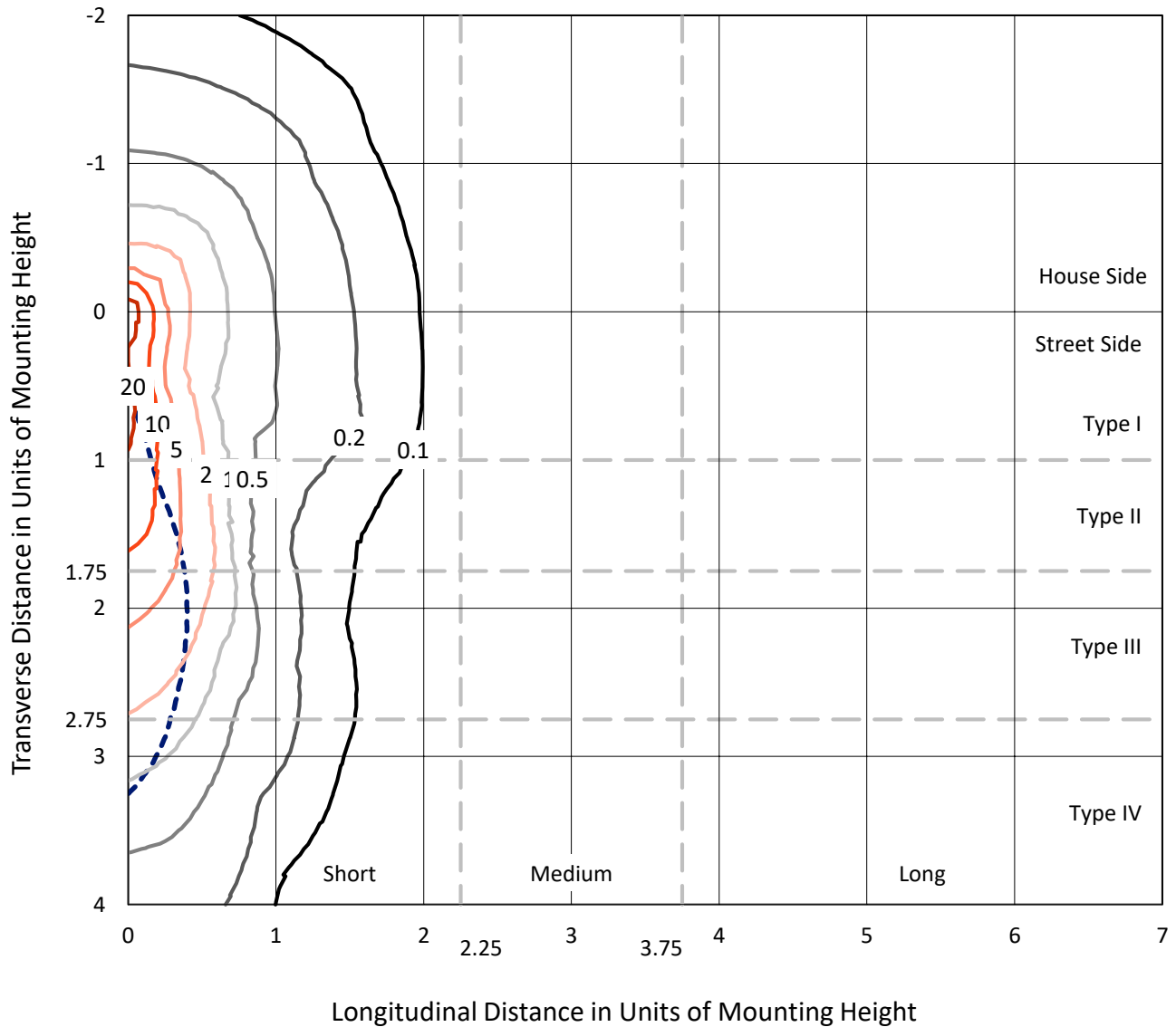


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

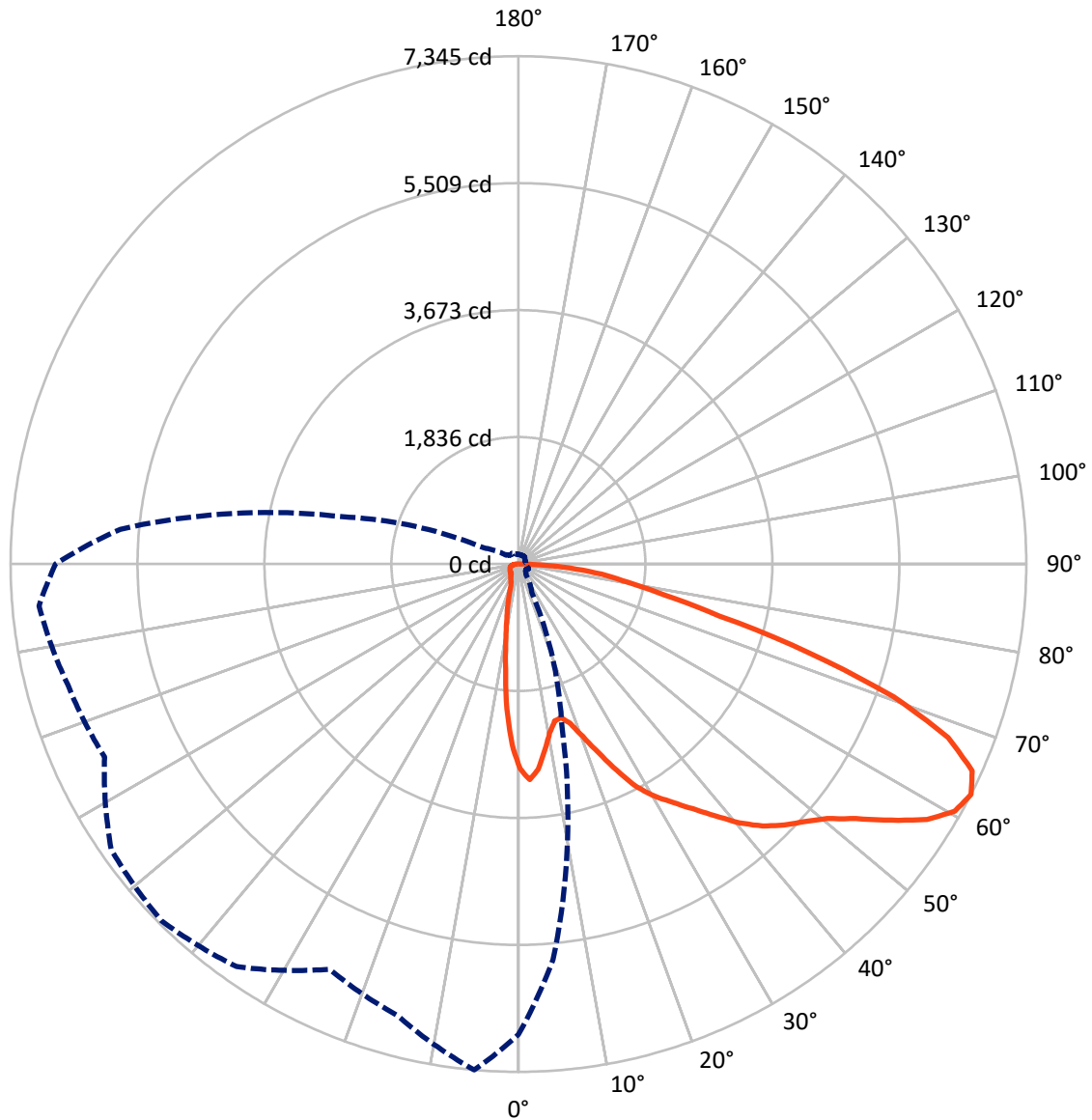


Based on 10 foot mounting height. Maximum calculated value = 29.6 fc
 Type IV - Short - Non-Cutoff

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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	1539.8	0.0	1539.8
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	7152.2	0.0	7152.2
	% Fixture	82.3	0.0	82.3
Total	Lumens	8692.0	0.0	8692.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	215.5	2.5
10°-20°	393.6	4.5
20°-30°	566.1	6.5
30°-40°	867.1	10.0
40°-50°	1267.7	14.6
50°-60°	1844.5	21.2
60°-70°	2137.1	24.6
70°-80°	1114.0	12.8
80°-90°	286.4	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°	8692.0	100.0
0°-180°	8692.0	100.0



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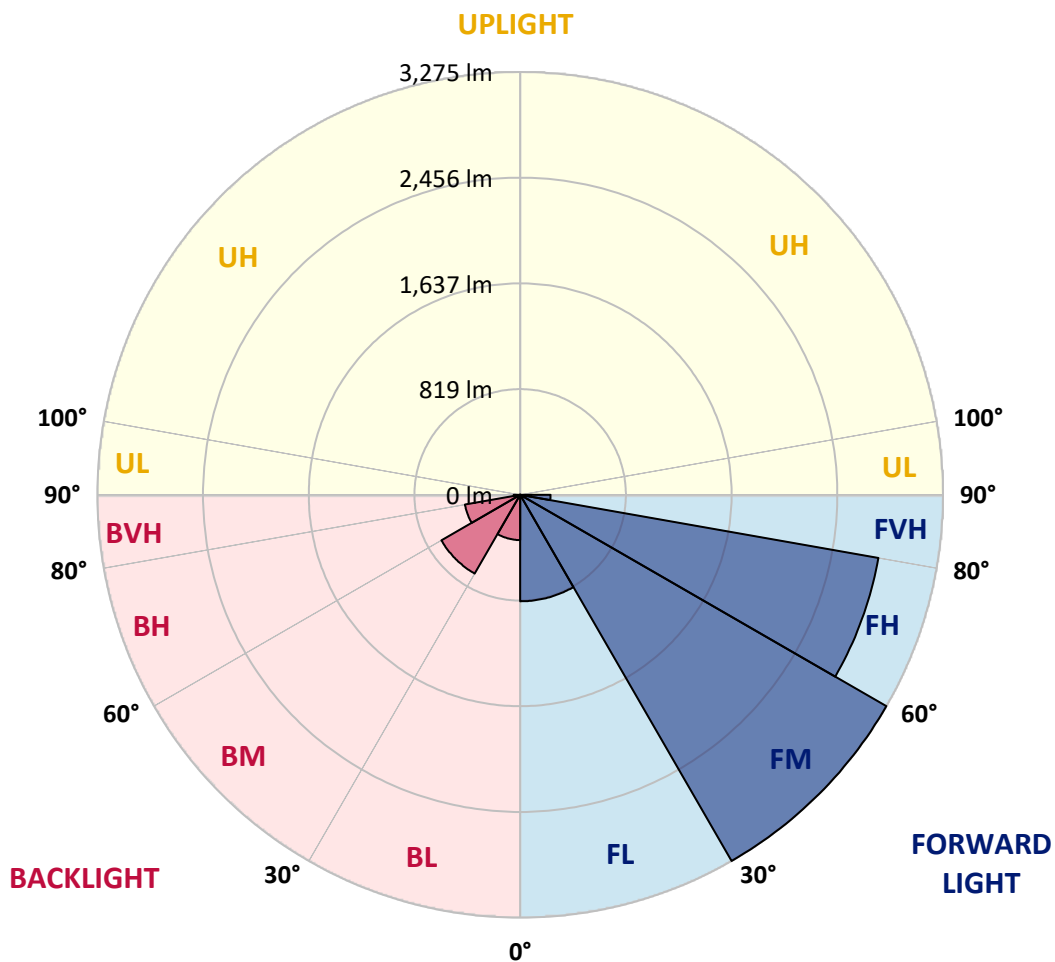
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	824.9	9.5			
FM	(30°-60°)	3274.7	37.7			
FH	(60°-80°)	2817.0	32.4			G2/5000
FVH	(80°-90°)	235.6	2.7			G3/500
BL	(0°-30°)	350.3	4.0	B1/500		
BM	(30°-60°)	704.5	8.1	B1/1000		
BH	(60°-80°)	434.2	5.0	B1/500		G1/500
BVH	(80°-90°)	50.8	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-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3
2.5°	3059.1	3016.2	2917.3	2830.3	2721.9	2640.6	2541.7	2489.4	2450.9	2425.1	2404.3
5°	2857.4	2754.0	2565.0	2399.2	2220.3	2091.1	1939.8	1857.2	1806.2	1778.5	1765.9
7.5°	2558.0	2421.3	2176.8	1954.3	1730.6	1569.2	1454.5	1332.3	1267.4	1225.1	1211.3
10°	2296.5	2142.1	1850.3	1600.1	1427.4	1312.7	1214.4	1102.2	1019.1	946.6	919.5
12.5°	2144.6	1965.0	1632.3	1406.0	1261.1	1138.2	1034.2	913.2	825.6	750.0	721.0
15°	2112.5	1912.1	1540.9	1282.5	1104.8	956.7	831.9	700.2	614.5	552.1	531.9
17.5°	2209.5	1962.5	1502.4	1169.7	955.4	774.5	620.8	479.6	408.4	374.3	366.2
20°	2409.3	2073.4	1484.2	1068.2	810.5	596.2	429.2	325.8	290.5	280.4	279.8
22.5°	2672.1	2253.7	1504.3	985.0	674.3	439.9	314.5	267.8	253.3	247.7	247.7
25°	2968.9	2497.5	1557.9	921.4	554.6	342.2	271.0	245.8	233.8	228.1	228.8
27.5°	3332.0	2794.4	1631.0	862.8	468.9	300.0	253.3	231.9	219.9	214.3	214.9
30°	3605.5	3049.6	1694.0	809.2	424.8	283.0	243.9	223.7	210.5	202.3	201.7
32.5°	3861.3	3274.6	1745.1	770.8	399.6	252.7	220.6	205.5	194.1	184.7	182.8
35°	4144.3	3486.4	1769.0	769.5	383.2	228.1	201.7	183.4	172.0	161.3	159.4
37.5°	4465.1	3745.4	1789.2	777.1	374.3	212.4	192.8	175.2	165.7	155.0	152.5
40°	4799.1	3998.7	1804.9	783.4	373.1	201.7	185.9	170.2	160.7	149.4	146.8
42.5°	5085.8	4223.1	1826.4	780.8	364.3	199.8	181.5	165.7	156.9	145.6	142.4
45°	5315.2	4401.4	1859.8	780.2	351.0	204.2	180.2	164.5	153.8	141.8	139.3
47.5°	5528.9	4602.5	1930.4	777.7	336.5	202.9	187.2	163.2	152.5	140.5	138.6
50°	5773.4	4872.8	2050.7	758.8	316.4	194.1	199.8	162.0	149.4	138.6	136.8
52.5°	6113.7	5268.6	2229.1	724.7	288.6	184.7	201.7	161.3	144.3	134.9	132.3
55°	6513.9	5692.7	2421.3	675.6	252.1	168.3	191.6	158.8	139.3	129.2	125.4
57.5°	6823.3	6006.0	2555.5	605.0	216.2	158.8	170.8	153.1	133.0	122.9	119.7
60°	6910.3	6019.8	2579.5	520.6	197.9	152.5	146.8	167.0	127.9	117.2	114.1
62.5°	6806.3	5744.4	2423.2	461.3	191.6	146.2	133.6	159.4	122.9	112.2	109.0
65°	6498.2	5279.3	2073.4	452.5	197.9	140.5	126.7	127.3	117.9	107.1	104.0
67.5°	5778.5	4594.9	1633.5	458.2	205.5	134.9	121.6	116.0	112.2	102.7	98.9
70°	4699.5	3699.4	1286.9	468.3	212.4	127.3	115.3	108.4	105.2	95.2	93.3
72.5°	3620.0	2960.8	1015.3	461.3	219.3	119.7	106.5	100.8	97.1	87.6	85.7
75°	2570.7	2352.6	746.2	395.8	201.0	109.0	96.4	91.4	88.2	78.1	77.5
77.5°	1852.8	1762.1	519.3	297.5	158.8	95.8	85.1	80.7	78.8	67.4	67.4
80°	1477.9	1341.1	310.7	194.1	116.0	79.4	71.2	69.3	67.4	56.1	56.7
82.5°	1061.9	930.2	198.5	121.0	85.1	60.5	55.5	54.8	51.7	41.6	41.6
85°	544.5	475.2	127.3	81.3	59.9	39.1	36.6	35.3	33.4	25.8	25.8
87.5°	105.9	145.6	70.6	39.7	29.0	13.9	13.9	12.0	13.9	9.5	10.1
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3
2.5°	2444.0	2431.4	2422.6	2418.1	2481.8	2508.3	2538.5	2582.0	2611.6	2599.0	2639.3
5°	1825.1	1833.9	1854.1	1885.6	1974.5	2016.7	2043.8	2079.7	2105.6	2079.7	2122.6
7.5°	1247.8	1261.1	1303.9	1368.8	1476.0	1523.2	1532.7	1533.3	1527.6	1485.4	1514.4
10°	918.9	892.4	901.8	948.5	1044.3	1086.5	1090.9	1079.6	1077.7	1060.7	1093.4
12.5°	712.1	675.6	654.2	661.7	733.6	768.2	773.9	780.2	806.0	814.2	854.6
15°	531.3	512.4	496.6	489.7	536.9	564.0	567.2	582.3	609.4	617.0	651.6
17.5°	373.7	378.8	387.0	390.1	424.1	441.8	436.7	436.7	441.2	439.3	458.8
20°	285.5	295.6	311.3	326.5	357.3	367.4	354.8	339.1	329.0	323.9	328.3
22.5°	252.1	259.0	269.1	288.6	314.5	319.5	303.1	290.5	281.1	276.0	276.7
25°	233.8	240.7	248.9	264.7	286.7	289.3	274.1	266.0	258.4	253.3	252.1
27.5°	218.1	222.5	227.5	237.6	260.3	261.5	251.5	246.4	241.4	237.6	236.3
30°	203.6	205.5	207.3	217.4	234.4	236.3	231.3	228.8	226.9	224.4	224.4
32.5°	184.7	187.2	190.3	199.1	215.5	218.1	214.9	213.0	209.9	208.6	206.7
35°	162.0	168.3	175.2	185.9	203.6	204.8	201.0	195.4	187.8	185.9	184.7
37.5°	152.5	153.8	162.6	175.2	193.5	194.7	189.7	180.2	174.6	175.2	176.5
40°	146.2	148.1	153.1	165.7	184.0	185.9	181.5	174.6	168.9	169.5	171.4
42.5°	141.2	143.7	146.8	155.0	173.3	177.1	175.8	169.5	163.9	165.1	167.6
45°	138.6	140.5	140.5	146.2	163.9	169.5	170.2	165.1	160.7	162.0	165.1
47.5°	137.4	137.4	135.5	139.9	157.6	163.2	164.5	162.0	159.4	160.7	163.9
50°	135.5	133.0	131.1	134.9	152.5	157.6	158.8	156.9	158.2	160.7	162.6
52.5°	129.8	127.3	127.3	129.8	147.5	152.5	153.1	151.9	154.4	157.6	160.7
55°	122.9	122.9	123.5	126.0	144.9	148.7	148.1	146.8	149.4	153.1	156.3
57.5°	116.6	116.0	119.1	122.3	141.8	144.3	143.1	143.1	144.9	148.1	151.3
60°	112.8	109.7	112.2	117.2	138.6	141.2	139.3	138.6	141.8	144.3	146.8
62.5°	109.0	105.9	107.8	112.8	134.2	136.1	134.9	134.9	138.0	139.9	142.4
65°	103.4	102.1	103.4	108.4	130.5	131.1	131.1	131.7	134.2	135.5	138.0
67.5°	98.3	98.3	98.9	104.0	127.3	126.0	126.0	129.2	129.8	131.1	133.6
70°	92.0	93.3	93.3	99.6	124.8	120.4	121.0	123.5	124.8	126.0	126.7
72.5°	85.1	85.7	87.0	95.2	121.0	114.7	115.3	117.2	117.9	119.7	120.4
75°	77.5	78.1	80.0	90.8	118.5	109.0	107.8	109.0	110.3	111.5	110.9
77.5°	68.7	70.0	71.8	88.2	110.3	107.8	98.3	99.6	100.8	100.8	100.2
80°	58.0	59.9	63.0	84.4	93.3	104.0	87.6	88.2	88.9	88.9	87.6
82.5°	43.5	47.3	51.7	70.0	73.1	88.9	75.6	76.9	75.0	73.7	73.1
85°	28.4	31.5	37.8	48.5	53.6	70.0	62.4	63.0	59.2	58.6	58.6
87.5°	11.3	12.0	17.0	24.6	32.1	43.5	44.7	46.0	42.9	42.9	44.1
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3
2.5°	2700.5	2763.5	2836.0	2909.7	2970.2	3048.4	3124.0	3204.6	3245.6	3269.6	3337.0
5°	2189.4	2275.7	2378.4	2493.8	2589.6	2753.4	2929.9	3126.5	3221.0	3314.3	3490.8
7.5°	1566.1	1650.5	1770.3	1919.6	2055.8	2271.9	2504.5	2770.4	2901.5	3052.8	3342.0
10°	1162.7	1252.2	1360.6	1487.3	1621.5	1846.5	2107.4	2406.2	2550.5	2721.3	3050.2
12.5°	942.8	1047.4	1159.6	1273.0	1388.4	1539.6	1813.1	2145.3	2300.3	2472.3	2801.9
15°	735.5	847.6	968.6	1092.2	1206.9	1375.8	1654.9	2047.6	2224.7	2391.0	2660.8
17.5°	520.6	626.4	762.6	912.6	1078.9	1278.7	1620.9	2090.4	2305.3	2479.3	2660.1
20°	354.8	427.9	564.0	741.8	947.2	1200.6	1633.5	2241.0	2509.5	2700.5	2769.2
22.5°	283.6	318.3	410.3	591.1	833.8	1143.8	1685.2	2447.8	2802.6	3035.1	2967.7
25°	257.8	277.3	325.2	467.0	732.9	1106.0	1786.0	2720.6	3130.9	3366.6	3206.5
27.5°	242.0	259.0	289.9	383.8	646.0	1081.5	1914.0	3042.1	3500.9	3694.3	3455.5
30°	231.9	248.9	277.3	344.7	580.4	1044.9	2026.1	3335.7	3796.4	3921.8	3589.7
32.5°	212.4	225.6	248.9	308.8	531.3	1002.0	2123.2	3598.5	4075.6	4117.2	3751.0
35°	192.2	206.1	229.4	279.8	502.3	968.6	2174.2	3831.7	4352.3	4312.6	3911.1
37.5°	184.7	196.0	217.4	259.0	486.5	946.6	2193.8	4061.1	4649.1	4528.7	4022.7
40°	179.6	189.7	208.6	245.2	482.1	925.8	2189.4	4279.2	4937.1	4752.5	4110.3
42.5°	175.8	184.7	202.3	235.7	470.1	906.3	2174.9	4467.6	5167.8	4945.3	4194.1
45°	172.7	182.1	199.8	240.7	448.1	884.8	2166.1	4639.7	5344.9	5107.9	4306.3
47.5°	171.4	182.1	200.4	239.5	424.1	860.9	2197.6	4830.6	5499.3	5244.7	4455.6
50°	169.5	181.5	214.3	228.1	391.4	831.3	2304.1	5058.1	5661.2	5398.4	4649.1
52.5°	166.4	180.9	228.8	219.3	349.1	790.3	2476.7	5379.5	5941.0	5697.8	4935.2
55°	162.6	182.1	218.7	205.5	304.4	737.4	2649.4	5820.0	6394.8	6180.5	5346.1
57.5°	158.2	180.2	206.7	192.8	267.2	670.5	2780.5	6181.2	6769.2	6678.4	5850.9
60°	155.0	184.7	185.9	185.3	243.3	606.9	2793.1	6157.8	6876.9	7001.7	6345.0
62.5°	151.3	188.4	169.5	179.6	231.3	547.7	2637.5	5776.6	6694.8	6960.1	6747.7
65°	146.2	164.5	160.7	174.6	231.3	516.1	2275.1	5141.9	6191.2	6566.9	6966.4
67.5°	141.2	149.4	154.4	167.6	236.3	486.5	1828.3	4337.1	5397.2	5932.2	6720.6
70°	134.2	141.2	147.5	161.3	233.8	465.7	1438.8	3476.3	4441.8	5054.3	6040.6
72.5°	127.9	133.0	139.3	151.9	233.8	456.3	1155.8	2726.9	3391.2	3907.3	5003.9
75°	118.5	122.9	128.6	142.4	229.4	417.2	867.8	2185.0	2481.2	2804.5	3948.3
77.5°	109.0	112.2	116.6	130.5	206.7	348.5	613.8	1692.1	1838.3	2017.3	3078.0
80°	97.1	99.6	102.7	116.6	171.4	270.4	399.6	1323.5	1374.5	1460.8	2024.9
82.5°	83.2	87.0	87.6	100.2	138.0	196.0	237.6	906.9	906.3	1032.9	1428.7
85°	68.1	70.0	71.2	78.8	102.1	130.5	156.3	495.3	441.8	618.9	1240.9
87.5°	51.0	49.2	51.0	52.9	67.4	76.9	83.8	91.4	54.8	112.2	721.6
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°	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3
2.5°	3372.9	3410.1	3388.0	3361.6	3295.4	3198.3	3124.0	3059.1
5°	3613.0	3681.7	3651.5	3553.2	3381.7	3187.0	2982.2	2857.4
7.5°	3582.8	3718.9	3706.9	3543.1	3297.3	3010.5	2722.5	2558.0
10°	3340.8	3531.7	3564.5	3396.9	3136.6	2815.8	2482.4	2296.5
12.5°	3077.3	3238.1	3304.9	3241.2	2996.0	2670.2	2330.5	2144.6
15°	2856.8	2938.1	3004.2	3045.2	2893.3	2618.5	2304.1	2112.5
17.5°	2693.5	2677.8	2733.2	2831.6	2837.9	2687.2	2423.8	2209.5
20°	2614.8	2491.2	2523.4	2661.4	2822.7	2861.8	2662.7	2409.3
22.5°	2610.4	2417.5	2423.8	2572.5	2866.2	3100.0	2960.8	2672.1
25°	2678.4	2409.3	2415.0	2563.1	2943.1	3340.1	3305.5	2968.9
27.5°	2794.4	2444.6	2440.8	2604.7	3045.8	3540.6	3653.4	3332.0
30°	2919.8	2495.7	2486.2	2671.5	3146.7	3664.1	3900.4	3605.5
32.5°	3076.1	2586.4	2553.6	2769.2	3246.2	3782.6	4111.5	3861.3
35°	3224.8	2719.4	2672.1	2909.1	3352.7	3914.3	4347.9	4144.3
37.5°	3376.7	2917.9	2891.4	3110.7	3503.4	4057.3	4618.2	4465.1
40°	3571.4	3200.2	3187.6	3403.8	3704.4	4213.6	4921.4	4799.1
42.5°	3781.3	3500.2	3489.5	3740.3	3954.0	4370.5	5181.0	5085.8
45°	3994.9	3863.9	3866.4	4099.6	4216.8	4518.6	5385.2	5315.2
47.5°	4247.0	4261.5	4351.6	4472.0	4472.6	4683.8	5566.1	5528.9
50°	4567.2	4741.7	4908.1	4927.0	4731.0	4901.8	5787.3	5773.4
52.5°	4929.6	5295.7	5489.2	5429.3	4983.1	5172.2	6114.4	6113.7
55°	5360.0	5874.9	6057.0	5954.9	5285.0	5524.5	6541.6	6513.9
57.5°	5806.2	6432.0	6578.8	6445.8	5662.5	5934.7	6970.2	6823.3
60°	6288.3	6911.6	7060.9	6861.2	6086.0	6343.8	7253.8	6910.3
62.5°	6604.0	7192.0	7299.2	7107.6	6465.4	6760.3	7345.2	6806.3
65°	6620.4	7005.5	7033.8	6965.8	6626.7	7122.1	7212.8	6498.2
67.5°	6170.4	6193.1	6230.3	6303.4	6282.0	6960.7	6702.3	5778.5
70°	5208.1	4905.6	5027.9	5098.4	5257.3	6191.2	5758.9	4699.5
72.5°	3982.3	3540.6	3679.2	3655.3	3985.5	5078.3	4405.8	3620.0
75°	2866.2	2414.4	2425.1	2426.3	2863.7	4053.5	3004.2	2570.7
77.5°	1948.0	1708.5	1743.8	1721.8	1916.5	3175.7	2162.9	1852.8
80°	1332.3	1326.0	1333.5	1281.9	1278.1	2052.6	1601.4	1477.9
82.5°	988.2	913.2	902.5	847.6	979.4	1569.2	1215.7	1061.9
85°	779.6	505.4	439.3	530.0	848.3	1443.8	741.1	544.5
87.5°	330.2	198.5	120.4	238.2	471.4	1058.1	205.5	105.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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