

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: P197201

Luminaire Tested: **NAV-AF-05-D-UNV-SLR-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197201
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-05-D-UNV-SLR-8030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 CRI, 3000K, 1050mA 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: 21671 lumens
Efficiency: N/A
Efficacy: 77.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B3 - U0 - G4

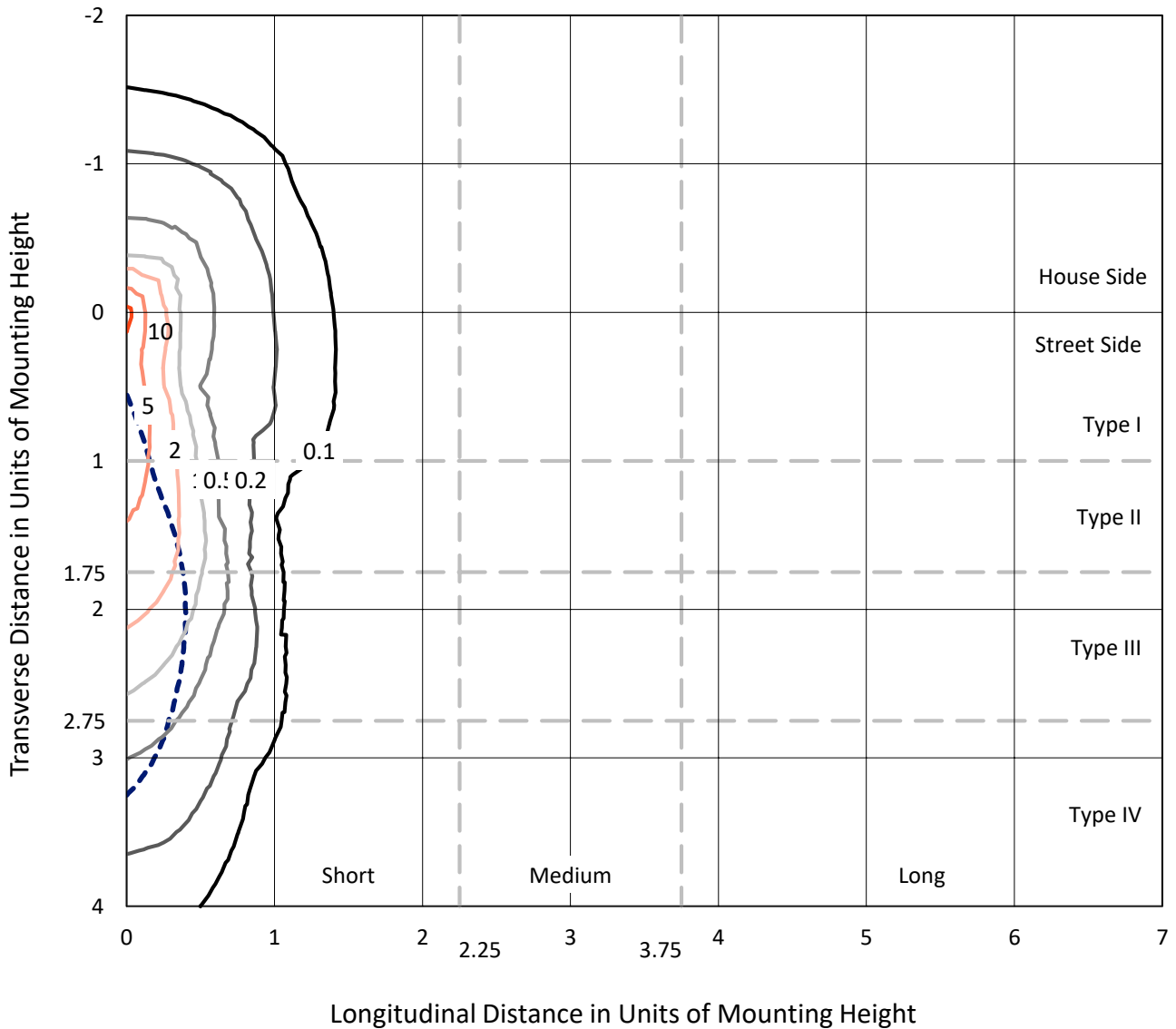
Input Watts (W): 279
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

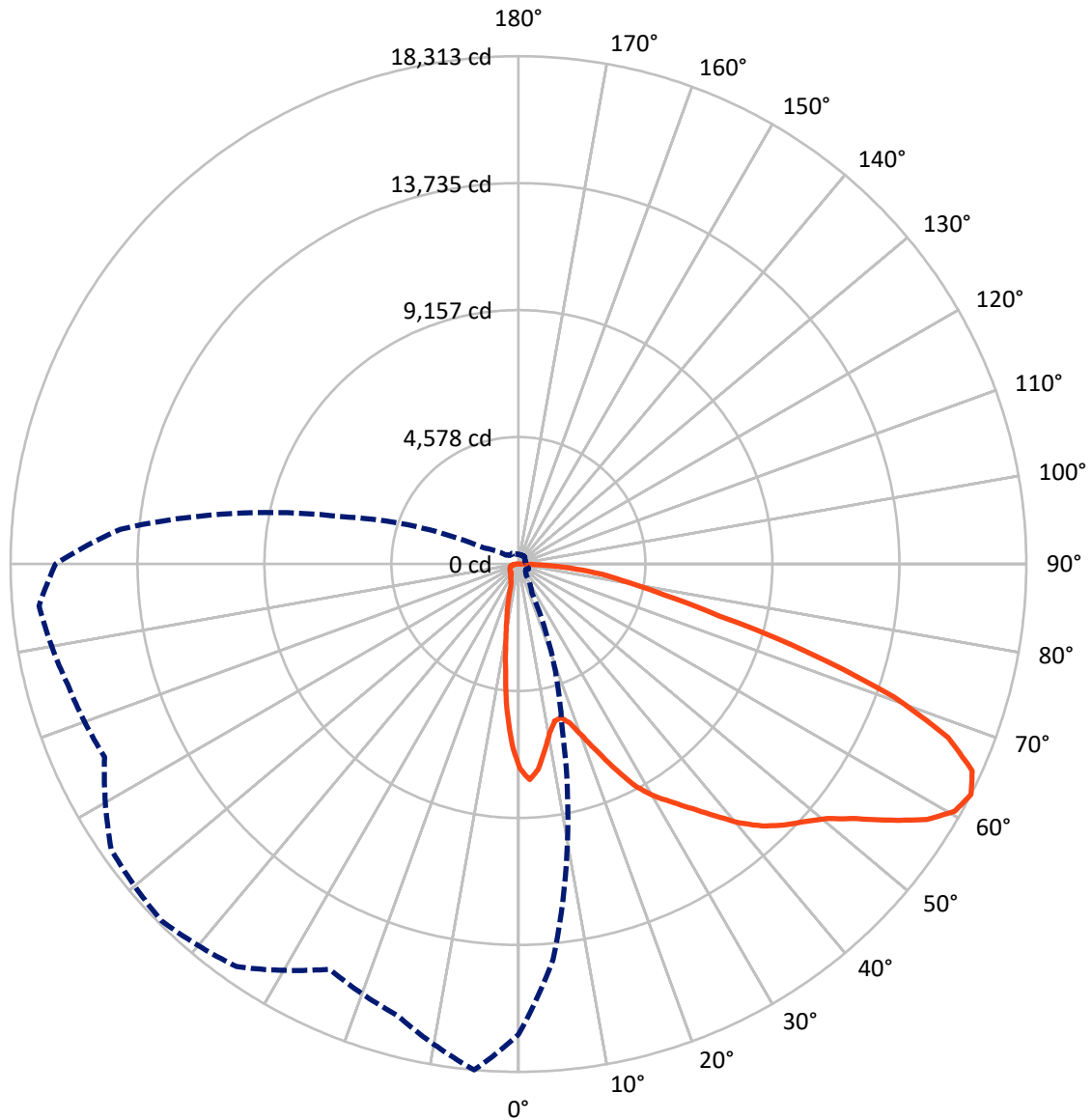
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 11.8 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	3839.1	0.0	3839.1
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	17831.9	0.0	17831.9
	% Fixture	82.3	0.0	82.3
Total	Lumens	21671.0	0.0	21671.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	537.3	2.5
10°-20°	981.4	4.5
20°-30°	1411.5	6.5
30°-40°	2161.8	10.0
40°-50°	3160.6	14.6
50°-60°	4598.7	21.2
60°-70°	5328.2	24.6
70°-80°	2777.5	12.8
80°-90°	714.0	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°	21671.0	100.0
0°-180°	21671.0	100.0



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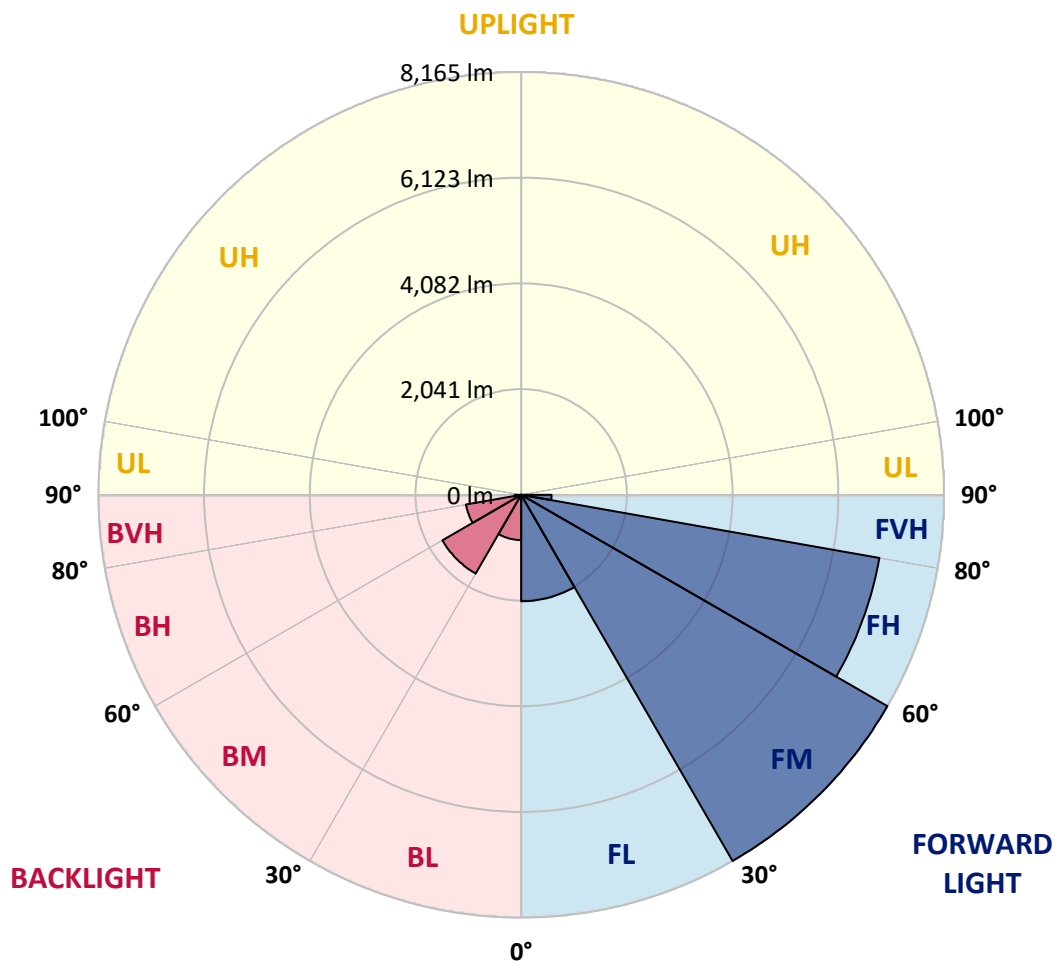
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2056.7	9.5			
FM	(30°-60°)	8164.6	37.7			
FH	(60°-80°)	7023.3	32.4			G3/7500
FVH	(80°-90°)	587.4	2.7			G4/750
BL	(0°-30°)	873.4	4.0	B2/1000		
BM	(30°-60°)	1756.5	8.1	B2/2500		
BH	(60°-80°)	1082.5	5.0	B3/2500		G3/2500
BVH	(80°-90°)	126.6	0.6			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1
2.5°	7626.9	7520.1	7273.4	7056.5	6786.3	6583.6	6336.9	6206.5	6110.6	6046.2	5994.4
5°	7124.1	6866.4	6395.0	5981.8	5535.6	5213.4	4836.3	4630.5	4503.2	4434.1	4402.7
7.5°	6377.8	6036.8	5427.1	4872.5	4314.7	3912.4	3626.5	3321.6	3159.8	3054.5	3020.0
10°	5725.7	5340.7	4613.2	3989.4	3558.9	3272.9	3027.8	2748.1	2540.7	2360.0	2292.5
12.5°	5347.0	4899.2	4069.6	3505.5	3144.1	2837.7	2578.4	2276.8	2058.4	1869.8	1797.5
15°	5266.9	4767.2	3841.7	3197.5	2754.4	2385.2	2074.1	1745.7	1532.0	1376.4	1326.1
17.5°	5508.8	4892.9	3745.9	2916.3	2382.0	1931.1	1547.7	1195.7	1018.2	933.3	912.9
20°	6006.9	5169.5	3700.3	2663.3	2020.6	1486.4	1070.0	812.3	724.4	699.2	697.6
22.5°	6662.2	5618.8	3750.6	2455.9	1681.3	1096.7	784.1	667.8	631.6	617.5	617.5
25°	7402.2	6226.9	3884.2	2297.2	1382.7	853.2	675.6	612.8	582.9	568.8	570.4
27.5°	8307.3	6967.0	4066.4	2151.1	1169.0	747.9	631.6	578.2	548.4	534.2	535.8
30°	8989.2	7603.3	4223.6	2017.5	1059.0	705.5	608.1	557.8	524.8	504.4	502.8
32.5°	9627.1	8164.3	4350.8	1921.7	996.2	630.1	549.9	512.2	483.9	460.4	455.7
35°	10332.6	8692.2	4410.5	1918.5	955.3	568.8	502.8	457.2	429.0	402.2	397.5
37.5°	11132.4	9338.0	4460.8	1937.4	933.3	529.5	480.8	436.8	413.2	386.5	380.2
40°	11965.2	9969.7	4500.1	1953.1	930.2	502.8	463.5	424.2	400.7	372.4	366.1
42.5°	12680.1	10529.0	4553.5	1946.8	908.2	498.1	452.5	413.2	391.2	363.0	355.1
45°	13252.0	10973.7	4636.8	1945.2	875.2	509.1	449.4	410.1	383.4	353.5	347.2
47.5°	13784.7	11474.9	4812.8	1938.9	839.1	505.9	466.7	407.0	380.2	350.4	345.7
50°	14394.3	12149.0	5112.9	1891.8	788.8	483.9	498.1	403.8	372.4	345.7	341.0
52.5°	15242.8	13135.8	5557.6	1807.0	719.6	460.4	502.8	402.2	359.8	336.3	330.0
55°	16240.6	14193.2	6036.8	1684.4	628.5	419.5	477.7	396.0	347.2	322.1	312.7
57.5°	17012.1	14974.1	6371.5	1508.4	538.9	396.0	425.8	381.8	331.5	306.4	298.5
60°	17228.9	15008.7	6431.2	1297.9	493.4	380.2	366.1	416.4	319.0	292.3	284.4
62.5°	16969.6	14322.1	6041.5	1150.2	477.7	364.5	333.1	397.5	306.4	279.7	271.8
65°	16201.3	13162.5	5169.5	1128.2	493.4	350.4	315.8	317.4	293.8	267.1	259.3
67.5°	14406.9	11456.1	4072.7	1142.3	512.2	336.3	303.3	289.1	279.7	256.1	246.7
70°	11716.9	9223.3	3208.5	1167.4	529.5	317.4	287.5	270.3	262.4	237.3	232.5
72.5°	9025.3	7381.8	2531.3	1150.2	546.8	298.5	265.5	251.4	242.0	218.4	213.7
75°	6409.2	5865.5	1860.4	986.8	501.2	271.8	240.4	227.8	220.0	194.8	193.3
77.5°	4619.5	4393.2	1294.7	741.6	396.0	238.8	212.1	201.1	196.4	168.1	168.1
80°	3684.6	3343.6	774.6	483.9	289.1	198.0	177.6	172.8	168.1	139.8	141.4
82.5°	2647.6	2319.2	494.9	301.7	212.1	150.8	138.3	136.7	128.8	103.7	103.7
85°	1357.6	1184.7	317.4	202.7	149.3	97.4	91.1	88.0	83.3	64.4	64.4
87.5°	264.0	363.0	176.0	99.0	72.3	34.6	34.6	29.9	34.6	23.6	25.1
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°	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1
2.5°	6093.4	6061.9	6039.9	6028.9	6187.6	6253.6	6329.0	6437.5	6511.3	6479.9	6580.4
5°	4550.4	4572.4	4622.7	4701.2	4922.8	5028.0	5095.6	5185.2	5249.6	5185.2	5292.0
7.5°	3111.1	3144.1	3250.9	3412.8	3679.9	3797.7	3821.3	3822.9	3808.7	3703.5	3775.7
10°	2290.9	2224.9	2248.5	2364.7	2603.6	2708.9	2719.9	2691.6	2686.9	2644.4	2726.1
12.5°	1775.5	1684.4	1631.0	1649.8	1828.9	1915.4	1929.5	1945.2	2009.6	2030.1	2130.6
15°	1324.6	1277.4	1238.2	1220.9	1338.7	1406.3	1414.1	1451.8	1519.4	1538.3	1624.7
17.5°	931.8	944.3	964.8	972.6	1057.5	1101.5	1088.9	1088.9	1099.9	1095.2	1143.9
20°	711.8	736.9	776.2	813.9	890.9	916.0	884.6	845.3	820.2	807.6	818.6
22.5°	628.5	645.8	670.9	719.6	784.1	796.6	755.8	724.4	700.8	688.2	689.8
25°	582.9	600.2	620.6	659.9	714.9	721.2	683.5	663.1	644.2	631.6	628.5
27.5°	543.7	554.7	567.2	592.4	648.9	652.1	626.9	614.4	601.8	592.4	589.2
30°	507.5	512.2	516.9	542.1	584.5	589.2	576.7	570.4	565.7	559.4	559.4
32.5°	460.4	466.7	474.5	496.5	537.4	543.7	535.8	531.1	523.2	520.1	515.4
35°	403.8	419.5	436.8	463.5	507.5	510.7	501.2	487.1	468.2	463.5	460.4
37.5°	380.2	383.4	405.4	436.8	482.4	485.5	472.9	449.4	435.2	436.8	440.0
40°	364.5	369.2	381.8	413.2	458.8	463.5	452.5	435.2	421.1	422.7	427.4
42.5°	352.0	358.2	366.1	386.5	432.1	441.5	438.4	422.7	408.5	411.7	418.0
45°	345.7	350.4	350.4	364.5	408.5	422.7	424.2	411.7	400.7	403.8	411.7
47.5°	342.5	342.5	337.8	348.8	392.8	407.0	410.1	403.8	397.5	400.7	408.5
50°	337.8	331.5	326.8	336.3	380.2	392.8	396.0	391.2	394.4	400.7	405.4
52.5°	323.7	317.4	317.4	323.7	367.7	380.2	381.8	378.7	385.0	392.8	400.7
55°	306.4	306.4	308.0	314.3	361.4	370.8	369.2	366.1	372.4	381.8	389.7
57.5°	290.7	289.1	297.0	304.8	353.5	359.8	356.7	356.7	361.4	369.2	377.1
60°	281.3	273.4	279.7	292.3	345.7	352.0	347.2	345.7	353.5	359.8	366.1
62.5°	271.8	264.0	268.7	281.3	334.7	339.4	336.3	336.3	344.1	348.8	355.1
65°	257.7	254.5	257.7	270.3	325.3	326.8	326.8	328.4	334.7	337.8	344.1
67.5°	245.1	245.1	246.7	259.3	317.4	314.3	314.3	322.1	323.7	326.8	333.1
70°	229.4	232.5	232.5	248.3	311.1	300.1	301.7	308.0	311.1	314.3	315.8
72.5°	212.1	213.7	216.8	237.3	301.7	286.0	287.5	292.3	293.8	298.5	300.1
75°	193.3	194.8	199.6	226.3	295.4	271.8	268.7	271.8	275.0	278.1	276.5
77.5°	171.3	174.4	179.1	220.0	275.0	268.7	245.1	248.3	251.4	251.4	249.8
80°	144.6	149.3	157.1	210.5	232.5	259.3	218.4	220.0	221.5	221.5	218.4
82.5°	108.4	117.8	128.8	174.4	182.3	221.5	188.6	191.7	187.0	183.8	182.3
85°	70.7	78.6	94.3	121.0	133.6	174.4	155.6	157.1	147.7	146.1	146.1
87.5°	28.3	29.9	42.4	61.3	80.1	108.4	111.6	114.7	106.8	106.8	110.0
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°	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1
2.5°	6732.9	6890.0	7070.7	7254.5	7405.4	7600.2	7788.7	7989.9	8092.0	8151.7	8319.8
5°	5458.6	5673.8	5929.9	6217.5	6456.3	6864.8	7304.8	7795.0	8030.7	8263.3	8703.2
7.5°	3904.6	4115.1	4413.7	4786.1	5125.5	5664.4	6244.2	6907.3	7234.1	7611.2	8332.4
10°	2899.0	3122.1	3392.4	3708.2	4042.9	4603.8	5254.3	5999.1	6358.9	6784.7	7604.9
12.5°	2350.6	2611.4	2891.1	3173.9	3461.5	3838.6	4520.5	5348.6	5735.1	6164.1	6985.8
15°	1833.7	2113.3	2415.0	2723.0	3009.0	3430.1	4126.1	5105.0	5546.6	5961.4	6633.9
17.5°	1297.9	1561.8	1901.2	2275.2	2690.0	3188.1	4041.3	5211.9	5747.7	6181.3	6632.3
20°	884.6	1066.9	1406.3	1849.4	2361.6	2993.3	4072.7	5587.4	6256.8	6732.9	6904.1
22.5°	707.1	793.5	1022.9	1473.8	2078.8	2851.8	4201.6	6102.8	6987.4	7567.2	7399.1
25°	642.6	691.4	810.8	1164.3	1827.4	2757.6	4453.0	6783.1	7806.0	8393.7	7994.6
27.5°	603.4	645.8	722.8	956.9	1610.5	2696.3	4771.9	7584.5	8728.4	9210.7	8615.2
30°	578.2	620.6	691.4	859.5	1447.1	2605.2	5051.6	8316.7	9465.3	9778.0	8949.9
32.5°	529.5	562.5	620.6	769.9	1324.6	2498.3	5293.6	8971.9	10161.4	10265.1	9352.2
35°	479.2	513.8	571.9	697.6	1252.3	2415.0	5420.9	9553.3	10851.1	10752.1	9751.3
37.5°	460.4	488.7	542.1	645.8	1213.0	2360.0	5469.6	10125.2	11591.2	11291.1	10029.4
40°	447.8	472.9	520.1	611.2	1202.0	2308.2	5458.6	10668.9	12309.3	11848.9	10247.8
42.5°	438.4	460.4	504.4	587.7	1172.2	2259.5	5422.4	11138.7	12884.4	12329.7	10456.8
45°	430.5	454.1	498.1	600.2	1117.2	2206.1	5400.4	11567.6	13325.9	12735.1	10736.4
47.5°	427.4	454.1	499.7	597.1	1057.5	2146.3	5479.0	12043.7	13710.8	13076.0	11108.8
50°	422.7	452.5	534.2	568.8	975.8	2072.5	5744.5	12611.0	14114.6	13459.4	11591.2
52.5°	414.8	451.0	570.4	546.8	870.5	1970.4	6175.1	13412.3	14812.3	14205.8	12304.6
55°	405.4	454.1	545.2	512.2	758.9	1838.4	6605.6	14510.6	15943.6	15409.4	13329.0
57.5°	394.4	449.4	515.4	480.8	666.2	1671.8	6932.4	15410.9	16876.9	16650.7	14587.6
60°	386.5	460.4	463.5	462.0	606.5	1513.1	6963.8	15352.8	17145.6	17456.7	15819.5
62.5°	377.1	469.8	422.7	447.8	576.7	1365.4	6575.7	14402.2	16691.5	17353.0	16823.5
65°	364.5	410.1	400.7	435.2	576.7	1286.9	5672.3	12819.9	15436.1	16372.6	17368.7
67.5°	352.0	372.4	385.0	418.0	589.2	1213.0	4558.2	10813.4	13456.3	14790.3	16755.9
70°	334.7	352.0	367.7	402.2	582.9	1161.2	3587.2	8667.1	11074.3	12601.5	15060.5
72.5°	319.0	331.5	347.2	378.7	582.9	1137.6	2881.7	6798.9	8455.0	9741.8	12475.8
75°	295.4	306.4	320.5	355.1	571.9	1040.2	2163.6	5447.6	6186.1	6992.1	9844.0
77.5°	271.8	279.7	290.7	325.3	515.4	868.9	1530.4	4218.8	4583.4	5029.6	7674.0
80°	242.0	248.3	256.1	290.7	427.4	674.1	996.2	3299.7	3426.9	3642.2	5048.5
82.5°	207.4	216.8	218.4	249.8	344.1	488.7	592.4	2261.0	2259.5	2575.3	3562.1
85°	169.7	174.4	177.6	196.4	254.5	325.3	389.7	1235.0	1101.5	1543.0	3093.8
87.5°	127.3	122.6	127.3	132.0	168.1	191.7	209.0	227.8	136.7	279.7	1799.1
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):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1	7388.1
2.5°	8409.4	8502.1	8447.1	8381.1	8216.1	7974.2	7788.7	7626.9
5°	9008.0	9179.3	9103.9	8858.8	8431.4	7945.9	7435.2	7124.1
7.5°	8932.6	9272.0	9242.2	8833.6	8220.8	7505.9	6787.9	6377.8
10°	8329.3	8805.4	8887.1	8469.1	7820.2	7020.4	6189.2	5725.7
12.5°	7672.5	8073.1	8239.7	8081.0	7469.8	6657.4	5810.5	5347.0
15°	7122.5	7325.2	7490.2	7592.3	7213.7	6528.6	5744.5	5266.9
17.5°	6715.6	6676.3	6814.6	7059.7	7075.4	6699.9	6043.1	5508.8
20°	6519.2	6211.2	6291.3	6635.4	7037.7	7135.1	6638.6	6006.9
22.5°	6508.2	6027.4	6043.1	6413.9	7146.1	7729.0	7381.8	6662.2
25°	6677.9	6006.9	6021.1	6390.3	7337.8	8327.7	8241.3	7402.2
27.5°	6967.0	6094.9	6085.5	6494.0	7593.9	8827.4	9108.6	8307.3
30°	7279.7	6222.2	6198.6	6660.6	7845.3	9135.3	9724.5	8989.2
32.5°	7669.3	6448.5	6366.8	6904.1	8093.6	9430.7	10250.9	9627.1
35°	8040.1	6780.0	6662.2	7252.9	8359.1	9759.1	10840.1	10332.6
37.5°	8418.8	7274.9	7209.0	7755.8	8734.6	10115.8	11514.2	11132.4
40°	8904.3	7978.9	7947.4	8486.4	9235.9	10505.5	12270.0	11965.2
42.5°	9427.6	8726.8	8700.1	9325.4	9858.1	10896.7	12917.3	12680.1
45°	9960.2	9633.4	9639.7	10221.1	10513.3	11266.0	13426.4	13252.0
47.5°	10588.7	10624.9	10849.6	11149.7	11151.2	11677.6	13877.4	13784.7
50°	11386.9	11822.2	12237.0	12284.1	11795.5	12221.3	14428.9	14394.3
52.5°	12290.4	13203.3	13685.7	13536.4	12424.0	12895.4	15244.4	15242.8
55°	13363.6	14647.3	15101.4	14846.9	13176.6	13773.7	16309.7	16240.6
57.5°	14476.0	16036.3	16402.4	16070.9	14117.8	14796.6	17378.2	17012.1
60°	15678.1	17232.0	17604.4	17106.3	15173.7	15816.3	18085.2	17228.9
62.5°	16465.3	17931.2	18198.4	17720.7	16119.6	16854.9	18313.1	16969.6
65°	16506.1	17466.2	17536.9	17367.2	16521.8	17756.8	17983.1	16201.3
67.5°	15384.2	15440.8	15533.5	15715.8	15662.3	17354.6	16710.4	14406.9
70°	12984.9	12230.7	12535.5	12711.5	13107.5	15436.1	14358.2	11716.9
72.5°	9928.8	8827.4	9173.0	9113.3	9936.7	12661.2	10984.7	9025.3
75°	7146.1	6019.5	6046.2	6049.4	7139.8	10106.4	7490.2	6409.2
77.5°	4856.8	4259.7	4347.7	4292.7	4778.2	7917.6	5392.6	4619.5
80°	3321.6	3305.9	3324.8	3195.9	3186.5	5117.6	3992.6	3684.6
82.5°	2463.7	2276.8	2250.0	2113.3	2441.7	3912.4	3031.0	2647.6
85°	1943.7	1260.2	1095.2	1321.4	2114.9	3599.8	1847.8	1357.6
87.5°	823.3	494.9	300.1	593.9	1175.3	2638.1	512.2	264.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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