

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: P196242

Luminaire Tested: **NAV-AF-06-D-UNV-SLR**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196242
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-06-D-UNV-SLR
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 4000K, 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: 32545.2 lumens
Efficiency: N/A
Efficacy: 97.7 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 - G5

Input Watts (W): 333
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

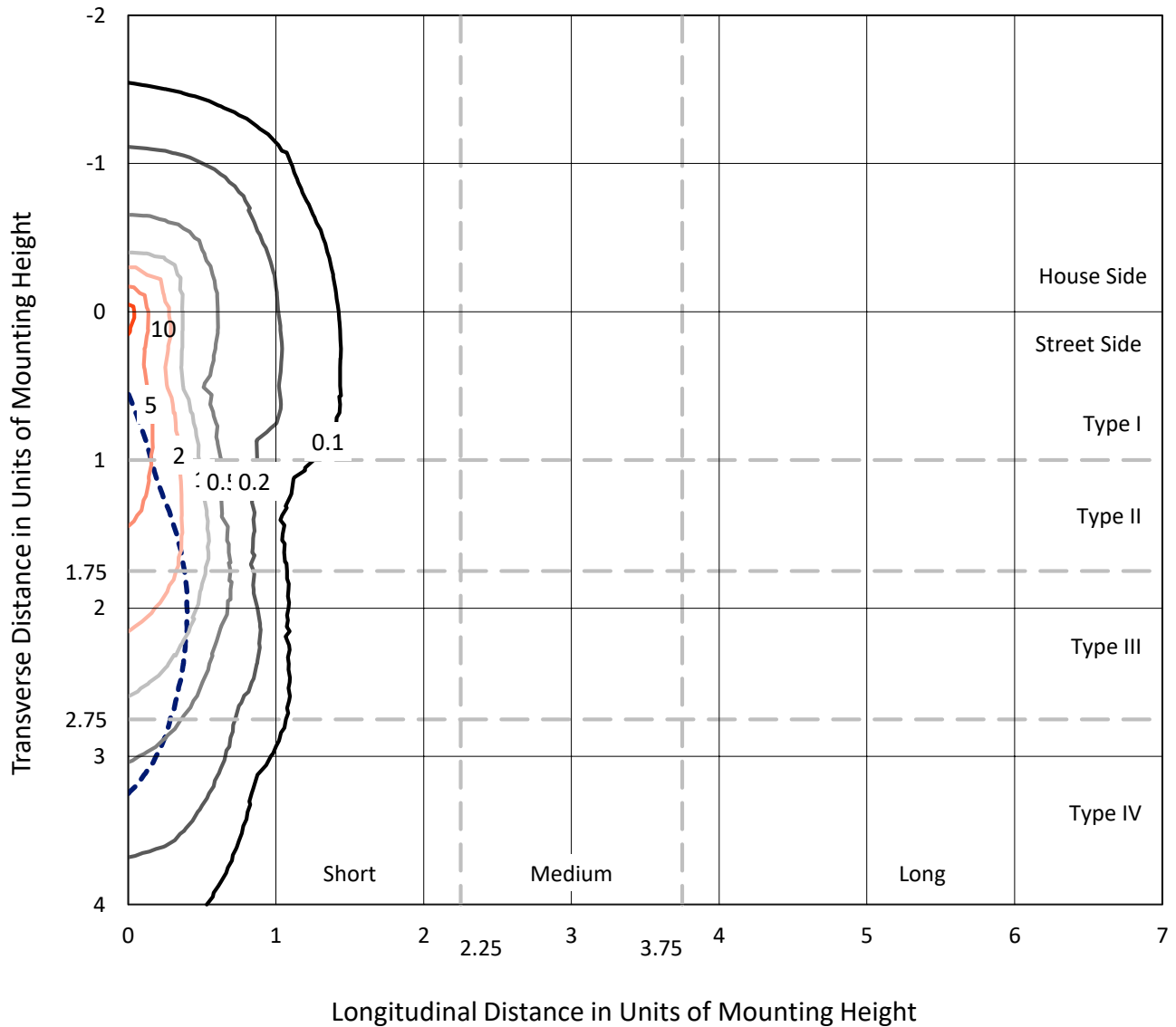


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

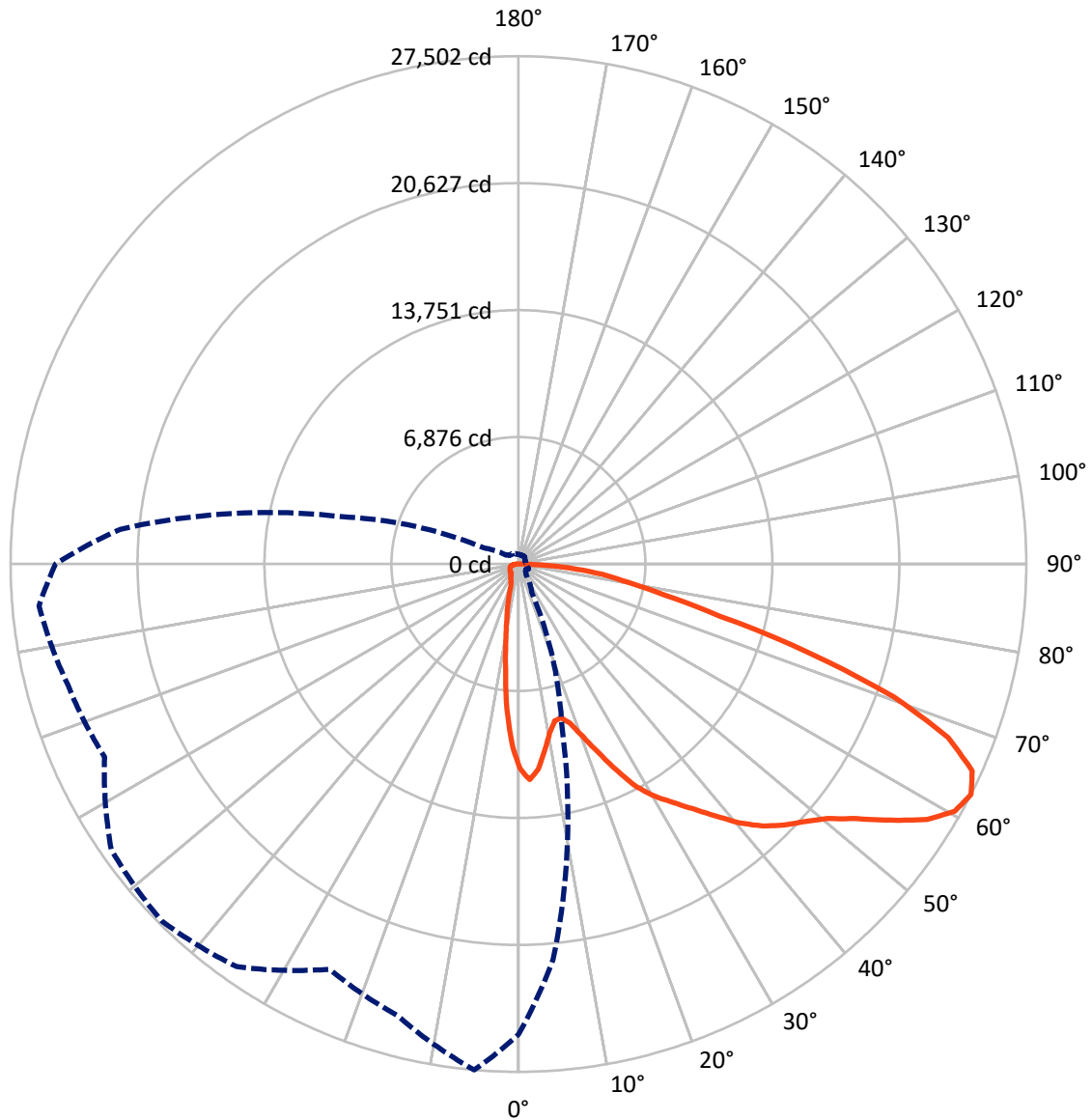


Based on 30 foot mounting height. Maximum calculated value = 12.3 fc
 Type IV - Short - Non-Cutoff

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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	5765.4	0.0	5765.4
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	26779.7	0.0	26779.7
	% Fixture	82.3	0.0	82.3
Total	Lumens	32545.2	0.0	32545.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	806.9	2.5
10°-20°	1473.8	4.5
20°-30°	2119.7	6.5
30°-40°	3246.6	10.0
40°-50°	4746.6	14.6
50°-60°	6906.3	21.2
60°-70°	8001.9	24.6
70°-80°	4171.3	12.8
80°-90°	1072.2	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°	32545.2	100.0
0°-180°	32545.2	100.0



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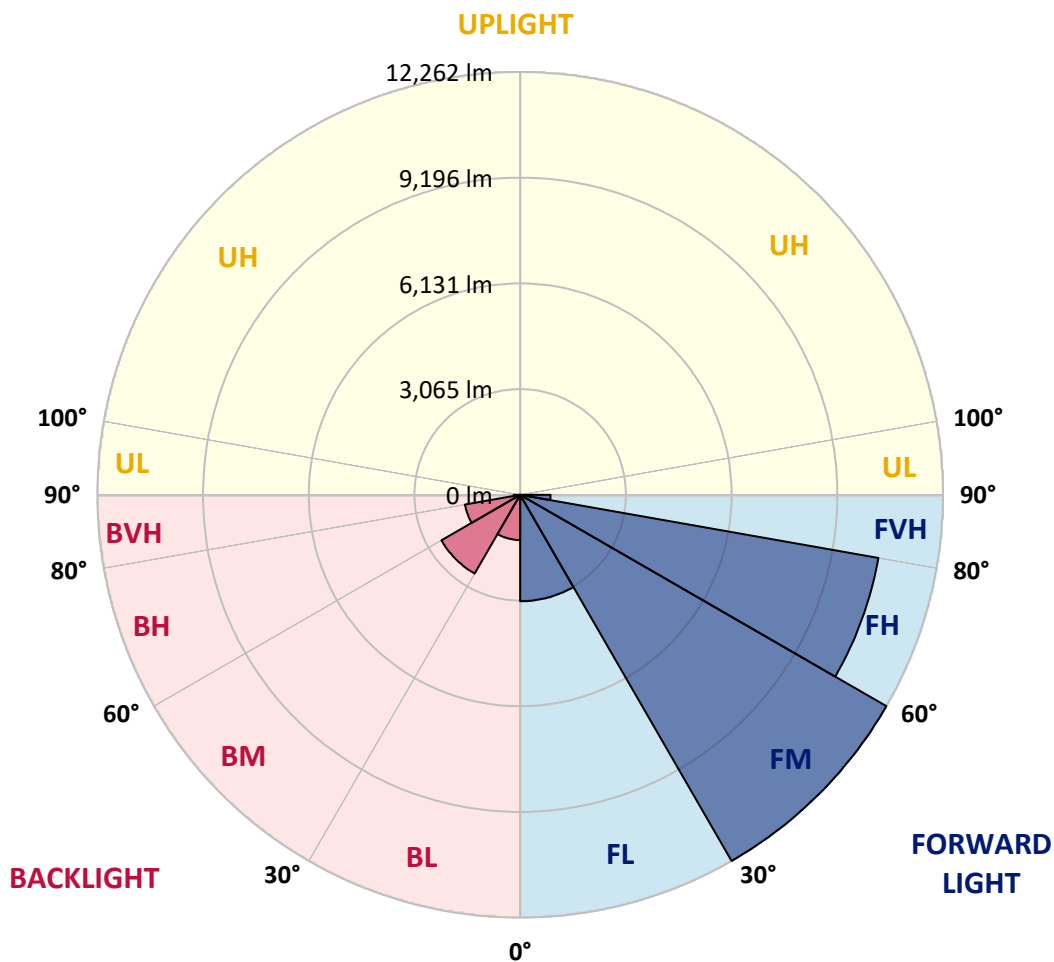
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	3088.7	9.5			
FM	(30°-60°)	12261.5	37.7			
FH	(60°-80°)	10547.4	32.4			G4/12000
FVH	(80°-90°)	882.1	2.7			G5
BL	(0°-30°)	1311.7	4.0	B3/2500		
BM	(30°-60°)	2637.9	8.1	B3/5000		
BH	(60°-80°)	1625.7	5.0	B3/2500		G3/2500
BVH	(80°-90°)	190.1	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-G5

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	11095.3	11095.3	11095.3	11095.3	11095.3	11095.3	11095.3	11095.3	11095.3	11095.3	11095.3
2.5°	11454.0	11293.5	10923.1	10597.4	10191.6	9887.1	9516.6	9320.8	9176.9	9080.1	9002.3
5°	10698.8	10311.9	9604.0	8983.3	8313.2	7829.5	7263.2	6954.0	6762.9	6659.1	6611.8
7.5°	9578.0	9066.0	8150.4	7317.5	6479.8	5875.6	5446.2	4988.4	4745.4	4587.2	4535.4
10°	8598.7	8020.7	6928.0	5991.3	5344.7	4915.3	4547.1	4127.1	3815.6	3544.2	3442.8
12.5°	8030.1	7357.6	6111.6	5264.5	4721.7	4261.6	3872.3	3419.2	3091.3	2808.0	2699.5
15°	7909.7	7159.3	5769.4	4801.9	4136.5	3582.1	3114.8	2621.6	2300.7	2067.1	1991.6
17.5°	8273.1	7348.1	5625.5	4379.6	3577.3	2900.1	2324.3	1795.7	1529.1	1401.6	1371.0
20°	9021.1	7763.4	5557.1	3999.7	3034.6	2232.3	1607.0	1220.0	1087.8	1050.1	1047.7
22.5°	10005.1	8438.3	5632.6	3688.2	2524.8	1647.1	1177.5	1002.9	948.6	927.4	927.4
25°	11116.5	9351.5	5833.2	3449.9	2076.5	1281.3	1014.7	920.2	875.4	854.2	856.6
27.5°	12475.7	10462.9	6106.9	3230.4	1755.6	1123.2	948.6	868.4	823.6	802.3	804.7
30°	13499.9	11418.6	6342.9	3029.9	1590.5	1059.5	913.2	837.7	788.2	757.5	755.1
32.5°	14457.9	12261.0	6534.0	2885.9	1496.1	946.2	825.9	769.3	726.8	691.4	684.4
35°	15517.3	13053.9	6623.7	2881.1	1434.7	854.2	755.1	686.7	644.2	604.1	597.0
37.5°	16718.5	14023.7	6699.2	2909.5	1401.6	795.2	722.1	656.0	620.6	580.5	571.0
40°	17969.1	14972.3	6758.1	2933.1	1396.9	755.1	696.1	637.1	601.7	559.2	549.8
42.5°	19042.7	15812.4	6838.4	2923.7	1363.9	748.0	679.5	620.6	587.6	545.1	533.3
45°	19901.7	16480.1	6963.4	2921.3	1314.4	764.6	674.8	615.9	575.7	530.9	521.5
47.5°	20701.7	17232.8	7227.8	2911.8	1260.1	759.8	700.8	611.1	571.0	526.2	519.1
50°	21617.2	18245.1	7678.5	2841.0	1184.6	726.8	748.0	606.4	559.2	519.1	512.1
52.5°	22891.4	19727.1	8346.3	2713.7	1080.7	691.4	755.1	604.1	540.3	504.9	495.5
55°	24389.8	21315.1	9066.0	2529.6	943.9	630.0	717.4	594.6	521.5	483.8	469.5
57.5°	25548.4	22487.9	9568.6	2265.3	809.4	594.6	639.4	573.4	497.9	460.1	448.4
60°	25874.1	22539.8	9658.3	1949.1	740.9	571.0	549.8	625.3	479.0	438.9	427.1
62.5°	25484.8	21508.7	9073.1	1727.3	717.4	547.5	500.2	597.0	460.1	420.0	408.3
65°	24330.9	19767.2	7763.4	1694.3	740.9	526.2	474.3	476.7	441.3	401.1	389.3
67.5°	21636.0	17204.6	6116.3	1715.5	769.3	504.9	455.4	434.1	420.0	384.6	370.5
70°	17596.3	13851.5	4818.5	1753.2	795.2	476.7	431.8	405.9	394.0	356.3	349.2
72.5°	13554.1	11085.8	3801.5	1727.3	821.2	448.4	398.7	377.6	363.4	328.0	320.9
75°	9625.3	8808.7	2793.9	1481.8	752.8	408.3	361.0	342.2	330.3	292.6	290.2
77.5°	6937.6	6597.7	1944.4	1113.8	594.6	358.6	318.5	302.1	294.9	252.5	252.5
80°	5533.4	5021.5	1163.3	726.8	434.1	297.4	266.7	259.5	252.5	210.0	212.4
82.5°	3976.1	3482.9	743.3	453.1	318.5	226.5	207.7	205.3	193.5	155.7	155.7
85°	2038.7	1779.2	476.7	304.4	224.1	146.3	136.9	132.2	125.1	96.8	96.8
87.5°	396.4	545.1	264.3	148.6	108.5	51.9	51.9	44.8	51.9	35.4	37.7
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°	11095.3	11095.3	11095.3	11095.3	11095.3	11095.3	11095.3	11095.3	11095.3	11095.3	11095.3
2.5°	9150.9	9103.8	9070.7	9054.1	9292.5	9391.6	9504.8	9667.7	9778.6	9731.4	9882.4
5°	6833.7	6866.8	6942.3	7060.2	7393.0	7551.0	7652.5	7787.0	7883.8	7787.0	7947.5
7.5°	4672.2	4721.7	4882.2	5125.3	5526.4	5703.4	5738.8	5741.1	5719.9	5561.8	5670.3
10°	3440.5	3341.4	3376.8	3551.4	3910.0	4068.1	4084.6	4042.2	4035.1	3971.4	4094.1
12.5°	2666.4	2529.6	2449.4	2477.7	2746.7	2876.4	2897.7	2921.3	3018.0	3048.7	3199.8
15°	1989.2	1918.4	1859.4	1833.4	2010.5	2111.9	2123.7	2180.3	2281.8	2310.1	2439.9
17.5°	1399.3	1418.2	1448.8	1460.7	1588.0	1654.1	1635.3	1635.3	1651.8	1644.7	1717.8
20°	1069.0	1106.7	1165.7	1222.3	1337.9	1375.7	1328.5	1269.5	1231.7	1212.9	1229.4
22.5°	943.9	969.9	1007.6	1080.7	1177.5	1196.3	1135.0	1087.8	1052.4	1033.6	1035.9
25°	875.4	901.4	932.1	991.0	1073.7	1083.1	1026.4	995.8	967.5	948.6	943.9
27.5°	816.4	833.0	851.8	889.6	974.6	979.3	941.5	922.6	903.8	889.6	884.9
30°	762.2	769.3	776.3	814.1	877.8	884.9	866.0	856.6	849.5	840.0	840.0
32.5°	691.4	700.8	712.6	745.6	807.0	816.4	804.7	797.6	785.7	781.0	774.0
35°	606.4	630.0	656.0	696.1	762.2	766.9	752.8	731.5	703.2	696.1	691.4
37.5°	571.0	575.7	608.8	656.0	724.5	729.2	710.2	674.8	653.7	656.0	660.7
40°	547.5	554.5	573.4	620.6	689.1	696.1	679.5	653.7	632.4	634.7	641.8
42.5°	528.6	538.0	549.8	580.5	649.0	663.1	658.4	634.7	613.6	618.3	627.7
45°	519.1	526.2	526.2	547.5	613.6	634.7	637.1	618.3	601.7	606.4	618.3
47.5°	514.4	514.4	507.4	523.9	589.9	611.1	615.9	606.4	597.0	601.7	613.6
50°	507.4	497.9	490.8	504.9	571.0	589.9	594.6	587.6	592.3	601.7	608.8
52.5°	486.1	476.7	476.7	486.1	552.2	571.0	573.4	568.7	578.2	589.9	601.7
55°	460.1	460.1	462.5	472.0	542.8	556.9	554.5	549.8	559.2	573.4	585.2
57.5°	436.5	434.1	446.0	457.8	530.9	540.3	535.6	535.6	542.8	554.5	566.3
60°	422.4	410.6	420.0	438.9	519.1	528.6	521.5	519.1	530.9	540.3	549.8
62.5°	408.3	396.4	403.6	422.4	502.6	509.7	504.9	504.9	516.8	523.9	533.3
65°	387.0	382.3	387.0	405.9	488.5	490.8	490.8	493.2	502.6	507.4	516.8
67.5°	368.2	368.2	370.5	389.3	476.7	472.0	472.0	483.8	486.1	490.8	500.2
70°	344.5	349.2	349.2	372.9	467.2	450.7	453.1	462.5	467.2	472.0	474.3
72.5°	318.5	320.9	325.6	356.3	453.1	429.4	431.8	438.9	441.3	448.4	450.7
75°	290.2	292.6	299.7	339.8	443.7	408.3	403.6	408.3	413.0	417.7	415.3
77.5°	257.2	261.9	269.0	330.3	413.0	403.6	368.2	372.9	377.6	377.6	375.2
80°	217.1	224.1	236.0	316.2	349.2	389.3	328.0	330.3	332.8	332.8	328.0
82.5°	162.9	177.0	193.5	261.9	273.7	332.8	283.2	287.9	280.8	276.1	273.7
85°	106.2	117.9	141.6	181.7	200.6	261.9	233.6	236.0	221.8	219.4	219.4
87.5°	42.5	44.8	63.7	92.1	120.3	162.9	167.6	172.3	160.5	160.5	165.2
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°	11095.3	11095.3	11095.3	11095.3	11095.3	11095.3	11095.3	11095.3	11095.3	11095.3	11095.3
2.5°	10111.3	10347.2	10618.6	10894.7	11121.2	11413.9	11697.0	11999.1	12152.5	12242.2	12494.6
5°	8197.6	8520.9	8905.5	9337.3	9696.0	10309.5	10970.2	11706.4	12060.4	12409.6	13070.3
7.5°	5863.9	6180.1	6628.4	7187.7	7697.3	8506.8	9377.4	10373.2	10864.0	11430.4	12513.5
10°	4353.7	4688.7	5094.6	5568.8	6071.5	6913.9	7890.8	9009.3	9549.7	10189.2	11420.9
12.5°	3530.1	3921.8	4341.8	4766.5	5198.4	5764.7	6788.8	8032.4	8612.9	9257.1	10491.2
15°	2753.8	3173.8	3626.9	4089.3	4518.8	5151.2	6196.5	7666.7	8329.7	8952.7	9962.6
17.5°	1949.1	2345.5	2855.3	3416.9	4039.8	4787.8	6069.2	7827.1	8631.8	9283.1	9960.3
20°	1328.5	1602.2	2111.9	2777.4	3546.7	4495.3	6116.3	8391.1	9396.3	10111.3	10368.5
22.5°	1061.8	1191.6	1536.2	2213.4	3121.8	4282.9	6309.9	9165.0	10493.5	11364.3	11111.8
25°	965.2	1038.3	1217.6	1748.5	2744.4	4141.3	6687.3	10186.9	11723.0	12605.5	12006.2
27.5°	906.1	969.9	1085.5	1437.0	2418.7	4049.2	7166.4	11390.3	13108.1	13832.5	12938.2
30°	868.4	932.1	1038.3	1290.8	2173.3	3912.4	7586.4	12489.9	14214.8	14684.4	13440.9
32.5°	795.2	844.8	932.1	1156.2	1989.2	3751.9	7949.9	13473.9	15260.2	15415.9	14044.9
35°	719.7	771.6	859.0	1047.7	1880.7	3626.9	8140.9	14347.0	16296.1	16147.4	14644.3
37.5°	691.4	733.9	814.1	969.9	1821.7	3544.2	8214.1	15205.9	17407.5	16956.7	15061.9
40°	672.5	710.2	781.0	917.9	1805.2	3466.4	8197.6	16022.4	18485.8	17794.4	15390.0
42.5°	658.4	691.4	757.5	882.5	1760.3	3393.2	8143.3	16727.9	19349.5	18516.5	15703.8
45°	646.6	682.0	748.0	901.4	1677.7	3313.0	8110.3	17372.1	20012.6	19125.4	16123.9
47.5°	641.8	682.0	750.3	896.7	1588.0	3223.3	8228.3	18087.1	20590.8	19637.4	16683.1
50°	634.7	679.5	802.3	854.2	1465.4	3112.4	8627.1	18938.9	21197.2	20213.2	17407.5
52.5°	623.0	677.2	856.6	821.2	1307.2	2959.1	9273.7	20142.4	22244.9	21334.0	18478.8
55°	608.8	682.0	818.8	769.3	1139.8	2760.8	9920.2	21791.8	23943.9	23141.6	20017.3
57.5°	592.3	674.8	774.0	722.1	1000.5	2510.7	10411.0	23144.0	25345.6	25005.7	21907.4
60°	580.5	691.4	696.1	693.8	910.8	2272.4	10458.1	23056.6	25749.0	26216.3	23757.4
62.5°	566.3	705.5	634.7	672.5	866.0	2050.6	9875.4	21629.0	25067.1	26060.5	25265.2
65°	547.5	615.9	601.7	653.7	866.0	1932.6	8518.5	19252.8	23181.7	24588.1	26084.1
67.5°	528.6	559.2	578.2	627.7	884.9	1821.7	6845.5	16239.4	20208.5	22211.8	25163.8
70°	502.6	528.6	552.2	604.1	875.4	1743.8	5387.2	13016.1	16631.1	18924.8	22617.7
72.5°	479.0	497.9	521.5	568.7	875.4	1708.4	4327.7	10210.4	12697.6	14630.1	18736.0
75°	443.7	460.1	481.4	533.3	859.0	1562.1	3249.3	8181.0	9290.1	10500.7	14783.5
77.5°	408.3	420.0	436.5	488.5	774.0	1304.9	2298.4	6335.7	6883.2	7553.4	11524.8
80°	363.4	372.9	384.6	436.5	641.8	1012.3	1496.1	4955.4	5146.5	5469.8	7581.7
82.5°	311.5	325.6	328.0	375.2	516.8	733.9	889.6	3395.6	3393.2	3867.6	5349.4
85°	254.8	261.9	266.7	294.9	382.3	488.5	585.2	1854.7	1654.1	2317.2	4646.2
87.5°	191.1	184.0	191.1	198.2	252.5	287.9	313.8	342.2	205.3	420.0	2701.8
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°	11095.3	11095.3	11095.3	11095.3	11095.3	11095.3	11095.3	11095.3
2.5°	12629.1	12768.4	12685.7	12586.6	12338.8	11975.5	11697.0	11454.0
5°	13528.1	13785.4	13672.0	13304.0	12662.2	11933.0	11166.1	10698.8
7.5°	13414.9	13924.6	13879.7	13266.2	12345.9	11272.3	10193.9	9578.0
10°	12508.7	13223.8	13346.4	12718.8	11744.2	10543.1	9294.8	8598.7
12.5°	11522.4	12124.1	12374.2	12135.9	11218.0	9998.0	8726.2	8030.1
15°	10696.5	11000.9	11248.7	11402.0	10833.4	9804.6	8627.1	7909.7
17.5°	10085.4	10026.4	10234.0	10602.2	10625.7	10061.7	9075.4	8273.1
20°	9790.4	9327.9	9448.3	9965.0	10569.1	10715.4	9969.7	9021.1
22.5°	9773.9	9051.8	9075.4	9632.3	10731.9	11607.3	11085.8	10005.1
25°	10028.7	9021.1	9042.4	9596.9	11019.8	12506.4	12376.6	11116.5
27.5°	10462.9	9153.3	9139.1	9752.6	11404.5	13256.8	13679.2	12475.7
30°	10932.5	9344.5	9309.1	10002.7	11781.9	13719.3	14604.2	13499.9
32.5°	11517.7	9684.2	9561.5	10368.5	12154.8	14163.0	15394.7	14457.9
35°	12074.6	10182.1	10005.1	10892.4	12553.6	14656.1	16279.5	15517.3
37.5°	12643.3	10925.4	10826.3	11647.4	13117.6	15191.7	17291.9	16718.5
40°	13372.4	11982.5	11935.4	12744.7	13870.3	15777.0	18426.9	17969.1
42.5°	14158.2	13105.7	13065.6	14004.8	14804.8	16364.6	19399.0	19042.7
45°	14958.1	14467.3	14476.7	15349.8	15788.7	16919.0	20163.6	19901.7
47.5°	15902.0	15956.3	16293.8	16744.4	16746.7	17537.3	20840.9	20701.7
50°	17100.8	17754.3	18377.3	18448.1	17714.2	18353.7	21669.1	21617.2
52.5°	18457.5	19828.6	20552.9	20328.8	18658.1	19366.0	22893.7	22891.4
55°	20069.3	21997.1	22679.0	22296.7	19788.5	20685.1	24493.6	24389.8
57.5°	21739.9	24083.1	24632.9	24135.0	21201.9	22221.3	26098.2	25548.4
60°	23545.1	25878.8	26438.1	25690.1	22787.6	23752.7	27160.2	25874.1
62.5°	24727.3	26928.9	27330.0	26612.7	24208.1	25312.5	27502.2	25484.8
65°	24788.7	26230.4	26336.6	26081.8	24812.2	26667.0	27006.7	24330.9
67.5°	23103.8	23188.8	23328.0	23601.7	23521.4	26062.8	25095.4	21636.0
70°	19500.5	18367.9	18825.7	19090.0	19684.6	23181.7	21562.9	17596.3
72.5°	14910.9	13256.8	13775.9	13686.3	14922.7	19014.4	16496.6	13554.1
75°	10731.9	9040.0	9080.1	9084.8	10722.5	15177.6	11248.7	9625.3
77.5°	7293.8	6397.1	6529.3	6446.7	7175.8	11890.5	8098.5	6937.6
80°	4988.4	4964.8	4993.1	4799.6	4785.5	7685.5	5996.0	5533.4
82.5°	3700.0	3419.2	3379.1	3173.8	3667.0	5875.6	4551.8	3976.1
85°	2919.0	1892.5	1644.7	1984.5	3176.2	5406.1	2775.0	2038.7
87.5°	1236.4	743.3	450.7	892.0	1765.1	3961.9	769.3	396.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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