

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: P196765

Luminaire Tested: **NAV-AF-01-D-UNV-T2R-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196765
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24459)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-01-D-UNV-T2R-7030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 3000K, 1050mA LIGHTSQUARE WITH 16 LEDS EACH AND TYPE II ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6191.7 lumens
Efficiency: N/A
Efficacy: 104.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G1

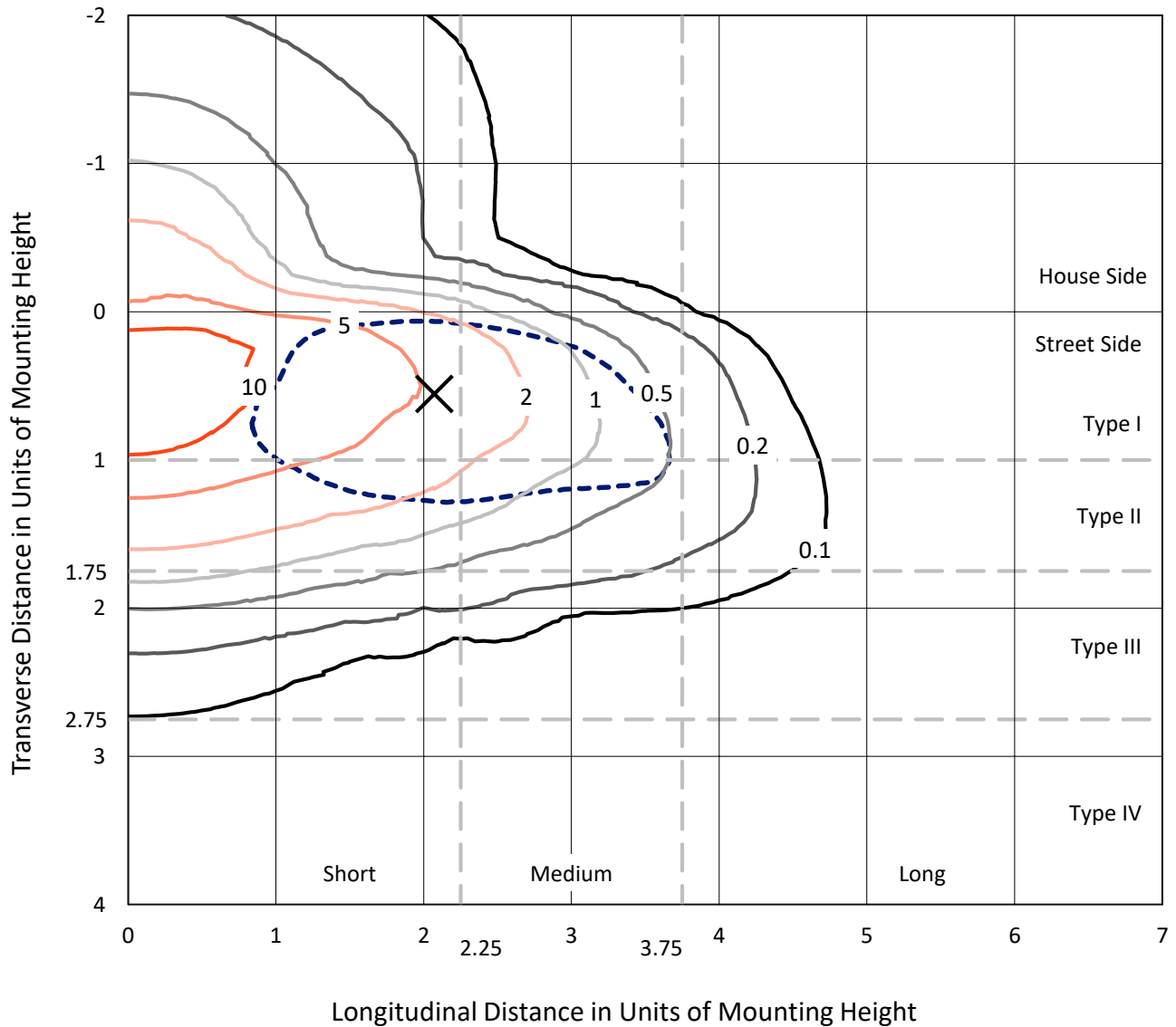
Input Watts (W): 59
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

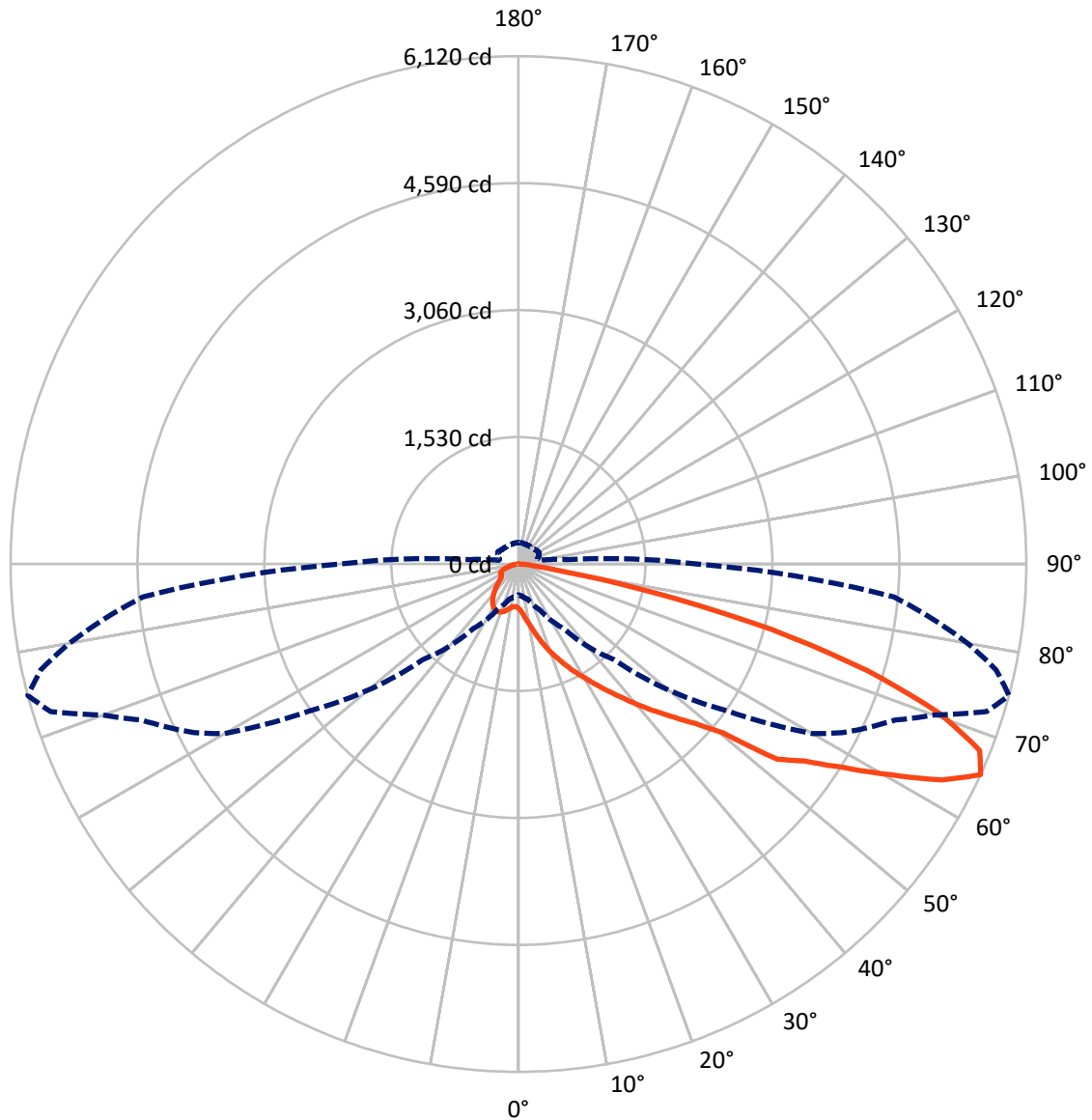
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 15.4 fc
 Type II - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	930.4	0.0	930.4
	% Fixture	15.0	0.0	15.0
Street Side	Lumens	5261.3	0.0	5261.3
	% Fixture	85.0	0.0	85.0
Total	Lumens	6191.7	0.0	6191.7
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.3	1.0
10°-20°	241.9	3.9
20°-30°	488.2	7.9
30°-40°	829.1	13.4
40°-50°	1156.4	18.7
50°-60°	1417.3	22.9
60°-70°	1333.5	21.5
70°-80°	584.7	9.4
80°-90°	77.4	1.2
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°	6191.7	100.0
0°-180°	6191.7	100.0

Coefficient of Utilization



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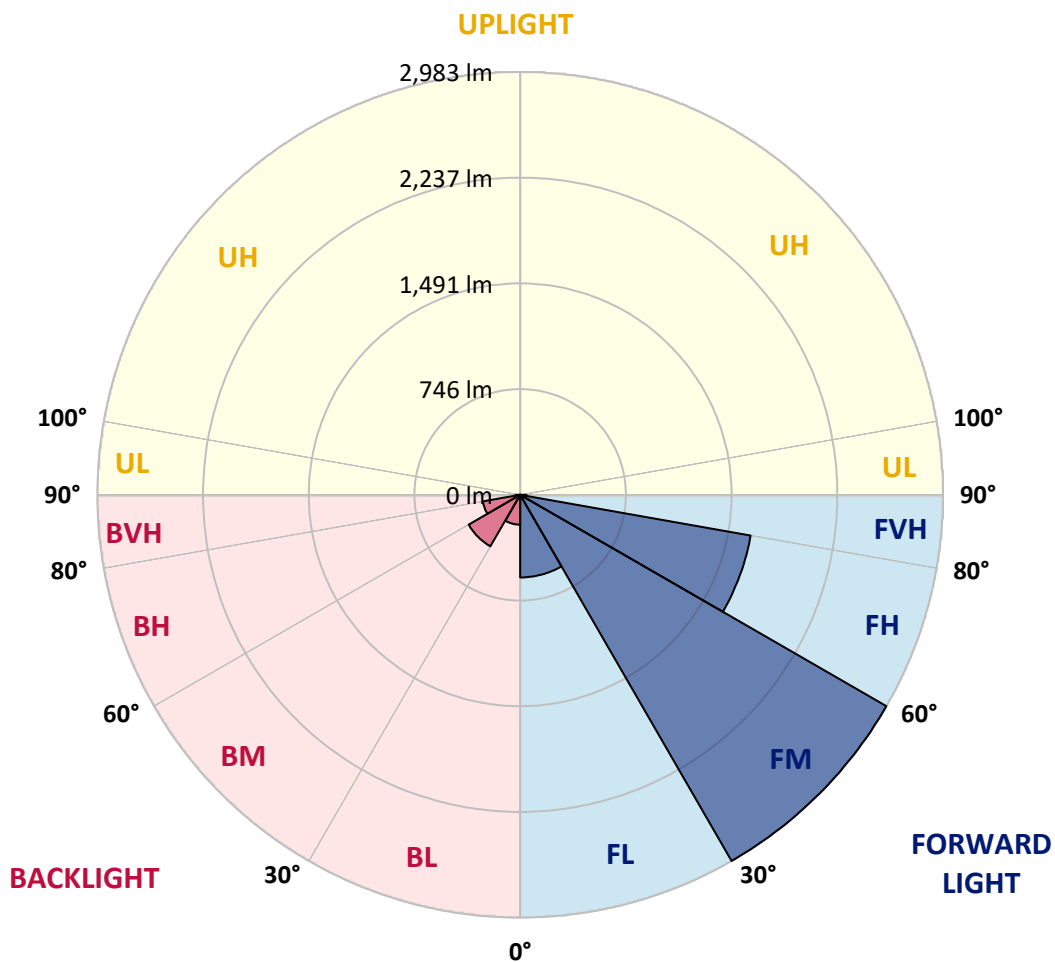
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	582.8	9.4			
FM	(30°-60°)	2982.9	48.2			
FH	(60°-80°)	1650.8	26.7			G1/1800
FVH	(80°-90°)	44.8	0.7			G1/100
BL	(0°-30°)	210.6	3.4	B1/500		
BM	(30°-60°)	419.8	6.8	B1/1000		
BH	(60°-80°)	267.4	4.3	B1/500		G1/500
BVH	(80°-90°)	32.5	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57.5°	60°	62.5°	65°
0°	536.5	536.5	536.5	536.5	536.5	536.5	536.5	536.5	536.5	536.5	536.5
2.5°	675.6	667.7	668.4	657.4	641.3	623.6	608.9	601.0	594.4	592.4	581.4
5°	883.5	873.6	870.1	844.9	807.1	762.2	717.7	700.4	686.1	677.5	656.2
7.5°	1053.7	1048.6	1043.8	1020.6	983.2	925.7	854.0	828.3	804.7	778.7	753.2
10°	1169.4	1167.4	1165.5	1149.4	1118.3	1068.2	991.0	963.0	933.5	900.4	867.0
12.5°	1256.9	1256.9	1258.4	1245.1	1226.2	1187.5	1117.5	1091.5	1061.6	1026.8	988.7
15°	1315.6	1317.1	1325.5	1329.3	1319.6	1294.7	1233.2	1210.4	1182.0	1147.8	1110.0
17.5°	1354.6	1357.8	1369.9	1382.9	1395.6	1386.8	1341.1	1320.0	1294.2	1262.8	1227.3
20°	1445.2	1441.2	1441.6	1437.8	1456.2	1462.9	1437.8	1420.0	1399.5	1370.7	1338.4
22.5°	1635.4	1628.0	1608.7	1559.3	1537.0	1534.5	1519.6	1510.2	1494.4	1476.3	1444.0
25°	1883.5	1874.9	1836.6	1755.6	1688.6	1626.8	1599.2	1593.3	1583.0	1570.8	1547.5
27.5°	2140.0	2130.5	2081.3	1978.9	1891.5	1766.6	1680.7	1672.9	1663.4	1658.2	1647.2
30°	2365.7	2355.4	2307.0	2203.0	2097.4	1948.5	1790.6	1763.0	1746.8	1748.4	1742.1
32.5°	2563.8	2554.8	2500.4	2394.4	2287.4	2142.8	1933.3	1890.3	1854.0	1840.7	1845.4
35°	2730.1	2721.7	2662.3	2555.6	2447.6	2327.4	2116.8	2052.1	1993.1	1956.1	1951.7
37.5°	2827.7	2823.0	2781.2	2690.6	2583.6	2495.3	2322.5	2250.6	2163.7	2109.7	2086.0
40°	2822.1	2827.3	2820.2	2779.2	2696.2	2631.9	2536.7	2465.8	2380.6	2300.4	2252.3
42.5°	2741.9	2749.0	2780.8	2802.1	2779.7	2740.7	2723.8	2671.0	2594.6	2509.4	2442.9
45°	2631.5	2637.8	2679.2	2756.1	2820.2	2831.2	2887.6	2861.2	2796.6	2724.2	2650.8
47.5°	2462.6	2474.8	2522.8	2644.9	2797.8	2904.1	3025.1	3037.3	2999.8	2939.9	2871.5
50°	2218.0	2234.2	2301.4	2475.2	2712.7	2979.0	3229.4	3275.9	3261.0	3200.3	3131.1
52.5°	1967.4	1983.6	2073.4	2258.2	2575.7	3009.6	3430.7	3549.8	3635.6	3698.2	3710.5
55°	1706.7	1724.8	1823.3	2036.0	2392.9	2970.6	3574.5	3709.7	3796.6	3862.1	3888.4
57.5°	1412.5	1432.9	1528.3	1743.3	2134.5	2814.0	3734.5	3925.9	4055.4	4156.3	4213.0
60°	1074.9	1100.6	1199.3	1416.0	1794.9	2513.8	3805.7	4088.9	4295.0	4446.2	4536.0
62.5°	681.4	707.5	810.2	1035.1	1408.6	2103.8	3604.0	4017.3	4368.6	4592.3	4756.9
65°	371.8	383.3	440.4	609.7	949.7	1632.3	3092.8	3580.1	4086.2	4403.2	4656.2
67.5°	278.8	280.5	286.4	327.7	505.8	1102.1	2418.1	2864.3	3426.5	3834.5	4136.5
70°	244.2	244.2	245.0	245.4	274.6	597.1	1638.2	2049.0	2564.2	2977.0	3352.4
72.5°	218.9	216.7	215.9	211.1	215.0	306.0	891.8	1260.9	1695.2	2158.5	2508.7
75°	189.0	188.7	188.7	184.0	186.3	215.5	386.8	605.0	941.9	1373.1	1717.8
77.5°	163.5	160.7	161.0	158.3	165.8	165.1	183.5	249.3	410.0	721.2	1007.2
80°	134.7	132.8	134.0	132.3	144.1	122.2	123.7	152.4	203.7	316.3	445.9
82.5°	99.7	100.4	107.9	107.2	121.3	82.3	90.5	113.8	137.1	157.6	171.3
85°	58.4	59.4	77.6	81.5	89.0	43.3	55.5	67.7	76.4	84.6	88.3
87.5°	6.3	8.3	43.3	44.5	39.8	13.0	22.4	28.4	30.4	32.3	28.4
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):

	67.5°	70°	72.5°	75°	77.5°	80°	85°	90°	95°	100°	102.5°
0°	536.5	536.5	536.5	536.5	536.5	536.5	536.5	536.5	536.5	536.5	536.5
2.5°	577.9	572.7	567.2	564.0	558.6	553.8	545.1	538.1	530.1	524.7	522.3
5°	645.6	633.3	620.4	610.9	599.1	588.9	569.1	545.5	538.1	522.3	518.3
7.5°	733.7	711.8	689.7	671.6	651.0	634.1	601.0	558.6	553.1	527.8	522.3
10°	837.4	805.1	772.5	744.5	714.5	688.6	639.7	579.8	573.9	541.6	536.1
12.5°	953.2	913.9	871.7	830.0	794.5	757.8	691.3	612.8	603.4	565.2	557.8
15°	1072.6	1030.0	981.1	930.8	887.0	838.6	754.7	656.2	638.8	594.0	583.8
17.5°	1190.4	1144.3	1093.0	1036.8	985.5	927.6	823.3	704.6	674.6	622.3	609.3
20°	1304.1	1257.2	1203.3	1148.2	1084.4	1018.2	893.3	752.4	706.7	645.9	629.0
22.5°	1407.8	1367.6	1313.7	1250.3	1185.6	1111.1	964.6	800.0	734.6	664.1	642.5
25°	1516.8	1480.3	1426.7	1365.6	1290.4	1207.7	1038.3	845.2	757.0	673.9	647.2
27.5°	1627.2	1595.6	1545.3	1481.0	1400.2	1308.5	1113.2	887.0	775.2	677.1	644.8
30°	1744.9	1720.5	1674.1	1602.3	1520.8	1419.2	1194.6	928.0	786.5	672.7	634.1
32.5°	1856.5	1855.5	1814.2	1739.9	1652.0	1540.1	1280.5	969.3	792.4	660.6	615.6
35°	1972.2	1988.3	1957.3	1886.4	1793.8	1669.7	1375.5	1013.5	792.9	638.8	591.6
37.5°	2103.8	2132.5	2118.7	2051.4	1954.1	1817.4	1486.9	1063.1	790.5	608.9	556.5
40°	2253.5	2292.8	2292.5	2235.7	2131.7	1982.8	1616.5	1118.6	785.0	571.5	515.1
42.5°	2424.8	2471.7	2484.7	2428.8	2323.5	2163.7	1765.0	1179.7	776.4	534.5	471.5
45°	2620.9	2662.3	2686.6	2634.7	2529.2	2360.5	1935.5	1249.1	765.7	486.9	421.4
47.5°	2830.9	2878.9	2915.6	2871.0	2758.4	2585.1	2137.6	1338.4	761.7	432.4	367.5
50°	3091.3	3140.8	3220.0	3199.9	3138.2	2998.6	2565.0	1549.6	763.4	380.9	322.2
52.5°	3737.2	3851.1	3951.1	3906.6	3759.6	3520.6	2912.5	1667.0	730.3	338.7	290.7
55°	3932.1	4061.3	4209.1	4190.5	4049.5	3808.4	3187.0	1765.0	698.3	308.0	270.2
57.5°	4273.2	4425.8	4632.1	4628.2	4455.3	4183.9	3540.2	1882.4	684.6	290.3	259.9
60°	4634.4	4828.7	5113.9	5158.3	4970.4	4688.1	3957.8	2026.5	686.5	280.5	254.0
62.5°	4898.4	5183.2	5597.9	5731.0	5509.7	5198.5	4391.0	2170.8	674.6	269.0	246.9
65°	4914.5	5324.5	5913.0	6120.2	5896.0	5496.3	4543.9	2142.3	603.8	253.7	235.6
67.5°	4520.6	5054.8	5769.7	5996.9	5767.7	5312.7	4276.1	1872.9	490.8	226.9	215.9
70°	3765.2	4385.1	5127.2	5380.5	5191.0	4730.6	3721.5	1496.0	366.7	191.4	186.3
72.5°	2909.7	3487.9	4161.8	4396.1	4251.3	3846.4	2935.2	1090.3	261.9	155.1	151.3
75°	2080.1	2572.5	3061.7	3151.1	3008.1	2636.3	1904.5	681.0	183.5	127.2	121.8
77.5°	1288.0	1608.3	1783.8	1668.9	1486.6	1235.6	775.2	336.4	122.2	103.6	98.2
80°	571.5	670.8	626.3	558.1	440.8	362.4	236.8	149.2	78.7	80.0	76.8
82.5°	192.2	203.2	197.8	196.5	177.2	155.1	100.4	64.6	44.1	51.3	50.0
85°	93.8	98.2	98.5	102.0	88.6	69.0	27.2	25.5	18.9	27.6	28.7
87.5°	28.4	28.7	26.0	28.4	22.8	15.8	5.1	7.1	3.5	6.7	6.7
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):

	105°	107.5°	110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°
0°	536.5	536.5	536.5	536.5	536.5	536.5	536.5	536.5	536.5	536.5	536.5
2.5°	518.0	516.4	513.6	510.5	509.7	505.8	504.6	502.6	501.4	499.5	497.9
5°	513.2	510.5	507.3	503.8	503.8	498.2	495.9	493.6	493.6	490.0	488.4
7.5°	518.0	514.4	510.9	507.7	508.9	502.6	500.2	497.9	497.4	494.0	492.3
10°	531.3	527.8	523.5	520.3	519.1	514.1	511.3	507.7	505.4	503.0	500.6
12.5°	551.9	547.1	541.6	535.0	532.1	527.8	523.5	518.8	513.2	510.9	507.3
15°	576.3	568.3	560.9	552.7	545.1	540.9	535.0	527.4	520.0	516.8	512.1
17.5°	596.3	588.1	577.4	567.6	554.2	550.6	542.4	533.3	521.1	520.0	512.9
20°	613.3	600.7	587.7	575.9	555.4	553.4	543.1	532.5	515.1	515.1	506.5
22.5°	622.8	605.4	590.0	574.2	548.7	547.1	535.3	522.7	501.4	502.1	491.5
25°	624.3	603.4	584.1	565.2	535.7	532.9	518.0	504.1	481.0	479.3	468.2
27.5°	618.0	593.6	571.1	548.3	516.4	510.5	494.0	477.4	454.5	450.5	438.7
30°	603.4	574.7	549.5	523.2	489.6	480.2	462.8	445.9	422.7	417.5	406.5
32.5°	580.1	547.5	519.5	493.2	456.1	444.3	426.9	410.0	387.6	383.6	373.4
35°	549.5	512.9	483.3	455.3	418.4	406.1	389.5	374.5	354.1	352.6	345.5
37.5°	510.9	472.6	441.2	414.4	379.3	373.0	356.0	345.0	328.1	329.6	326.1
40°	467.2	428.2	398.2	374.5	344.2	338.7	328.6	320.2	305.7	310.0	310.4
42.5°	423.1	384.0	356.8	335.7	309.6	306.0	299.0	294.2	283.2	291.8	295.4
45°	373.0	336.7	313.6	297.4	278.1	278.1	274.6	274.1	266.7	278.8	282.4
47.5°	324.6	296.2	280.0	270.2	256.9	263.1	261.9	265.1	259.6	272.2	275.4
50°	287.9	268.2	258.4	253.7	244.2	254.0	256.4	260.8	256.0	267.0	269.5
52.5°	264.7	251.8	246.2	245.0	238.3	250.5	254.5	258.4	252.8	263.1	262.8
55°	251.8	243.0	241.0	243.4	238.3	250.1	254.0	256.9	252.1	259.2	258.8
57.5°	246.9	242.2	243.4	246.9	243.4	253.3	255.2	258.4	253.7	256.9	258.4
60°	246.6	246.6	251.3	256.0	253.7	260.8	261.9	261.5	257.2	257.7	258.4
62.5°	244.2	250.1	258.0	265.5	264.7	273.3	274.1	269.0	265.5	261.5	260.4
65°	236.8	246.6	258.0	268.2	269.8	283.2	284.7	279.7	277.3	270.6	265.5
67.5°	220.1	232.8	246.2	258.8	261.5	279.7	283.2	285.1	286.4	282.0	275.4
70°	192.2	205.2	218.9	233.6	237.5	257.7	265.1	274.1	281.3	287.6	285.1
72.5°	156.3	168.2	180.1	193.4	199.3	220.1	230.0	245.9	256.9	272.9	279.7
75°	124.1	131.1	138.2	146.5	151.3	171.7	184.0	202.9	217.9	240.3	255.2
77.5°	97.7	101.3	104.8	108.2	110.3	121.8	131.5	150.4	167.8	196.1	218.2
80°	75.3	77.2	77.6	78.7	78.0	83.5	87.1	98.5	113.4	141.4	167.3
82.5°	48.4	50.0	50.8	52.8	48.8	55.9	58.4	59.4	67.3	87.9	106.3
85°	27.2	27.6	28.0	28.7	23.3	30.4	30.7	28.7	28.0	36.3	41.0
87.5°	6.7	6.3	6.7	6.7	2.7	6.3	6.3	4.4	3.2	5.9	4.7
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):

	135°	145°	155°	165°	175°	180°
0°	536.5	536.5	536.5	536.5	536.5	536.5
2.5°	494.3	493.6	494.0	492.0	491.2	491.5
5°	486.4	484.9	484.9	483.7	482.2	482.2
7.5°	490.0	486.9	485.6	483.3	481.0	481.3
10°	495.5	490.0	486.1	482.5	479.7	479.7
12.5°	499.1	489.3	483.3	478.5	475.4	475.4
15°	499.9	484.9	476.3	471.1	467.9	467.9
17.5°	495.2	476.3	465.2	458.5	454.9	455.7
20°	483.3	460.1	447.1	440.0	436.4	436.8
22.5°	464.8	438.0	423.1	414.7	411.3	411.3
25°	439.6	410.4	394.3	387.6	384.5	384.5
27.5°	410.9	380.9	366.7	361.5	359.6	359.6
30°	378.5	353.7	343.5	339.9	336.7	336.7
32.5°	351.4	333.6	330.1	325.4	317.1	316.7
35°	329.6	327.7	324.9	310.8	299.0	297.4
37.5°	317.8	329.6	312.4	287.9	278.5	278.1
40°	311.6	322.7	292.7	280.8	279.7	279.7
42.5°	296.6	304.5	291.5	284.7	284.7	285.1
45°	280.8	287.6	294.2	288.3	290.3	290.7
47.5°	269.8	283.2	294.2	289.1	293.1	295.4
50°	259.6	279.2	288.3	288.3	292.7	293.1
52.5°	257.2	273.8	282.8	287.2	287.6	285.6
55°	257.7	269.5	278.5	284.0	281.7	281.7
57.5°	257.2	267.0	274.9	276.9	278.1	278.1
60°	257.7	263.9	270.2	269.5	273.3	273.3
62.5°	258.8	259.6	262.8	261.9	267.8	267.8
65°	261.5	254.0	252.1	252.8	259.9	259.6
67.5°	266.7	246.6	240.3	240.7	250.9	249.3
70°	274.1	236.3	226.9	224.5	241.9	239.1
72.5°	276.5	224.5	209.6	207.1	217.4	209.6
75°	265.5	215.0	190.9	183.1	178.8	176.5
77.5°	236.8	209.1	171.7	155.1	148.5	147.0
80°	196.1	197.0	146.5	126.8	147.3	147.0
82.5°	148.1	170.1	117.4	110.0	106.7	89.0
85°	71.7	128.1	90.2	75.6	45.4	42.9
87.5°	6.3	53.5	52.0	33.9	15.4	14.5
90°	0.0	0.0	0.0	0.0	0.0	0.0

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