

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: P270301

Luminaire Tested: **NAV-AF-01-D-UNV-T2R-7027**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P270301  
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-7027  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(1) 70 CRI, 2700K, 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: 5562.1 lumens  
Efficiency: N/A  
Efficacy: 94.3 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

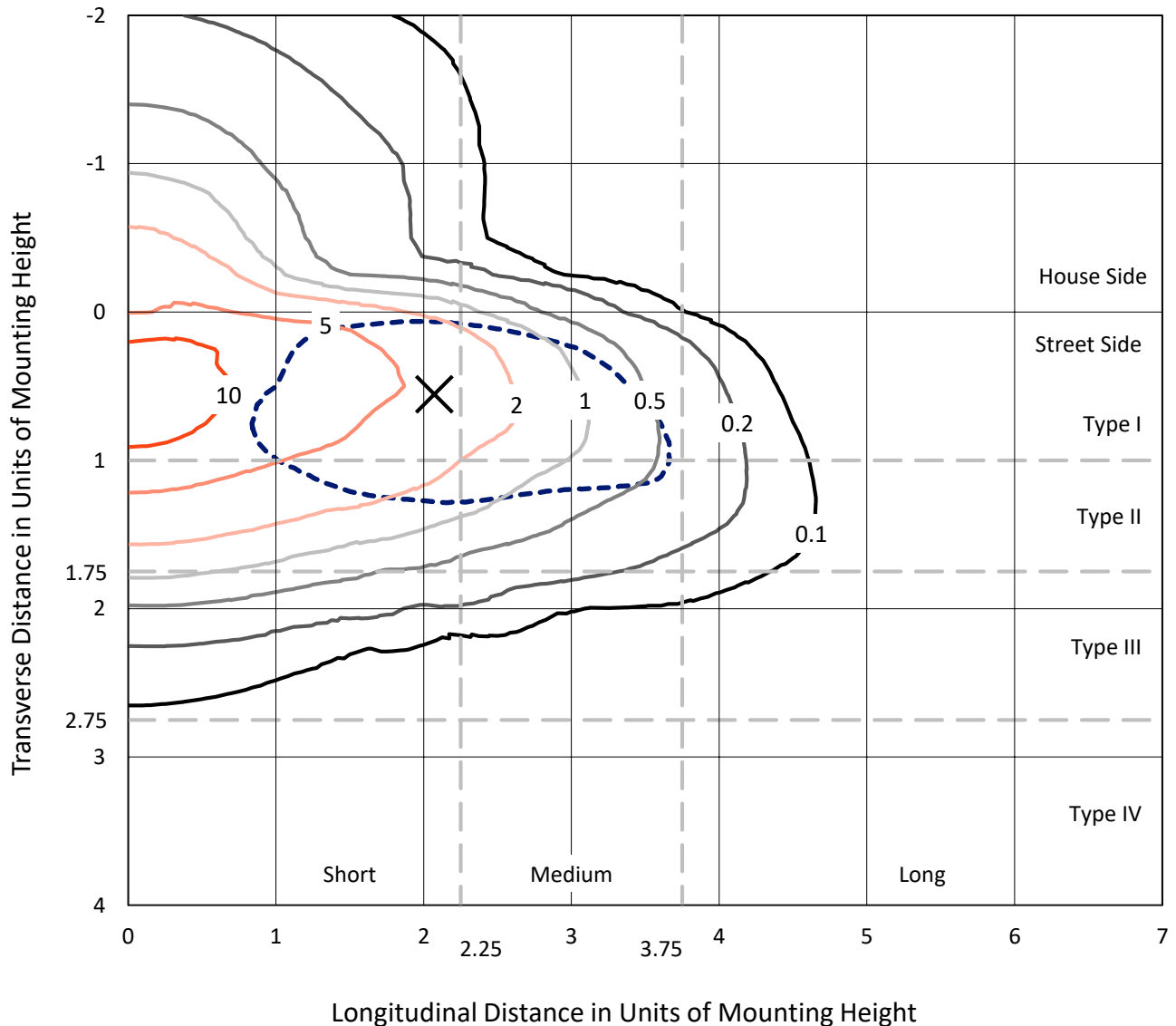
Input Watts (W): 59  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

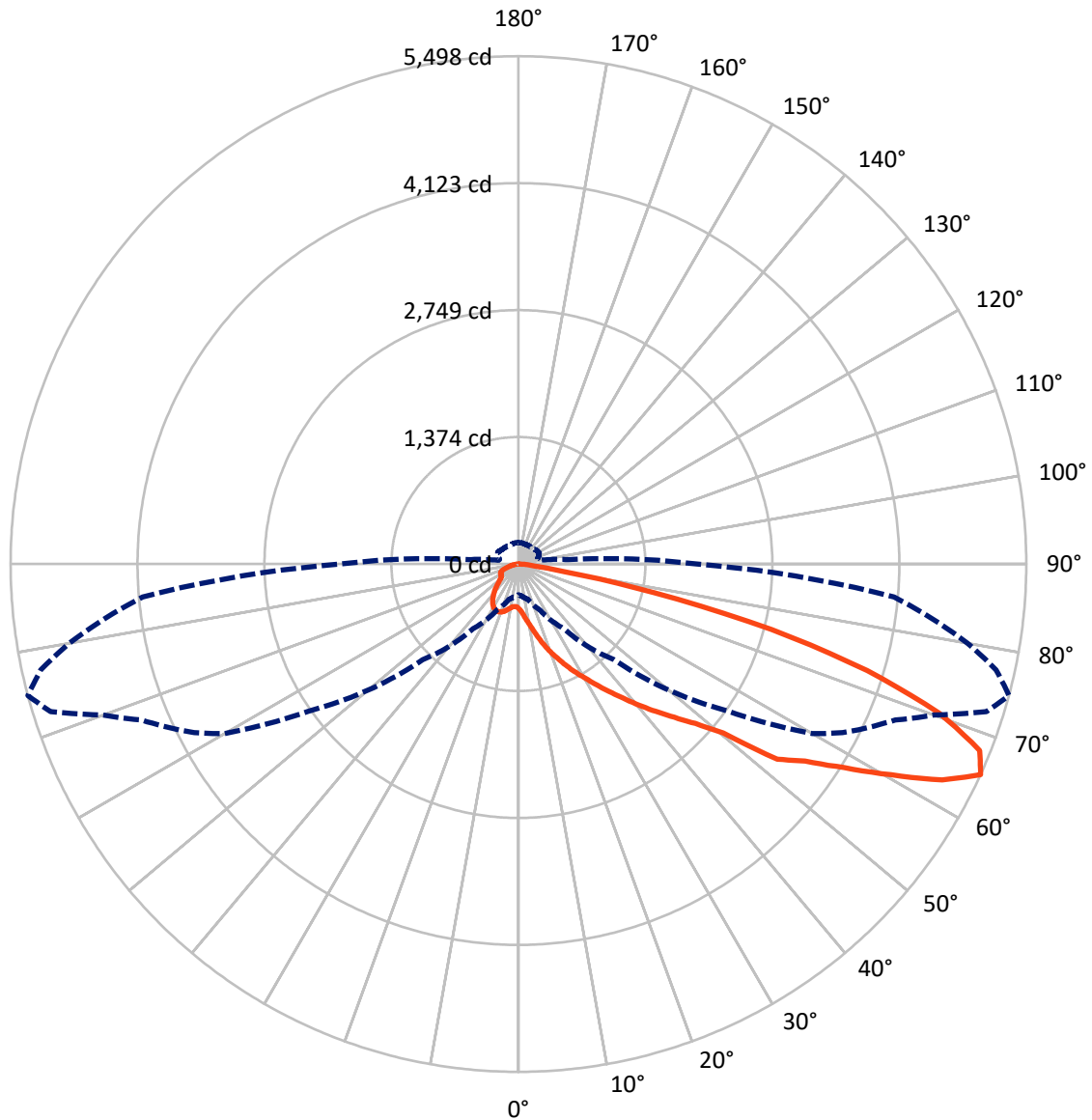
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 13.8 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
<b>House Side</b>	Lumens	835.8	0.0	835.8
	% Fixture	15.0	0.0	15.0
<b>Street Side</b>	Lumens	4726.3	0.0	4726.3
	% Fixture	85.0	0.0	85.0
<b>Total</b>	Lumens	5562.1	0.0	5562.1
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	56.9	1.0
10°-20°	217.3	3.9
20°-30°	438.5	7.9
30°-40°	744.8	13.4
40°-50°	1038.8	18.7
50°-60°	1273.2	22.9
60°-70°	1197.9	21.5
70°-80°	525.2	9.4
80°-90°	69.5	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°	5562.1	100.0
0°-180°	5562.1	100.0



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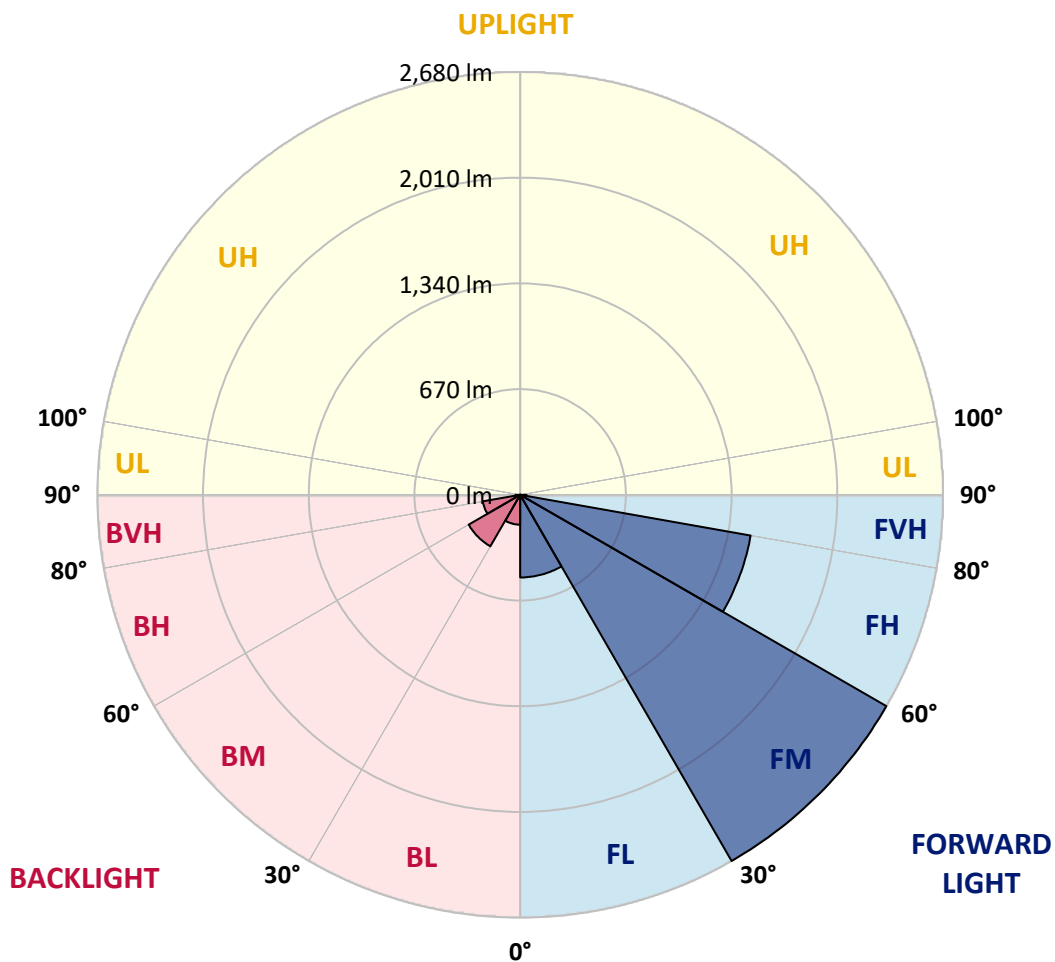
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	523.5	9.4			
FM	(30°-60°)	2679.5	48.2			
FH	(60°-80°)	1482.9	26.7			G1/1800
FVH	(80°-90°)	40.3	0.7			G1/100
BL	(0°-30°)	189.2	3.4	B1/500		
BM	(30°-60°)	377.2	6.8	B1/1000		
BH	(60°-80°)	240.2	4.3	B1/500		G1/500
BVH	(80°-90°)	29.2	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°	481.9	481.9	481.9	481.9	481.9	481.9	481.9	481.9	481.9	481.9	481.9
2.5°	606.9	599.8	600.4	590.5	576.1	560.2	547.0	539.9	534.0	532.2	522.3
5°	793.7	784.8	781.6	759.0	725.0	684.7	644.7	629.2	616.3	608.6	589.5
7.5°	946.5	942.0	937.7	916.8	883.2	831.6	767.2	744.1	722.9	699.5	676.6
10°	1050.5	1048.7	1047.0	1032.5	1004.6	959.6	890.2	865.1	838.6	808.8	778.8
12.5°	1129.1	1129.1	1130.4	1118.5	1101.5	1066.7	1003.9	980.5	953.6	922.4	888.2
15°	1181.8	1183.2	1190.7	1194.1	1185.4	1163.0	1107.8	1087.3	1061.8	1031.1	997.1
17.5°	1216.8	1219.7	1230.6	1242.3	1253.7	1245.8	1204.7	1185.8	1162.6	1134.4	1102.5
20°	1298.2	1294.6	1295.0	1291.6	1308.1	1314.1	1291.6	1275.6	1257.2	1231.3	1202.3
22.5°	1469.1	1462.4	1445.1	1400.7	1380.7	1378.4	1365.1	1356.6	1342.4	1326.2	1297.2
25°	1692.0	1684.2	1649.8	1577.1	1516.9	1461.4	1436.6	1431.3	1422.0	1411.1	1390.1
27.5°	1922.4	1913.8	1869.6	1777.7	1699.1	1586.9	1509.8	1502.8	1494.2	1489.6	1479.7
30°	2125.1	2115.9	2072.4	1979.0	1884.1	1750.3	1608.5	1583.7	1569.2	1570.6	1564.9
32.5°	2303.1	2295.0	2246.1	2150.9	2054.8	1924.9	1736.7	1698.1	1665.5	1653.5	1657.7
35°	2452.5	2444.9	2391.6	2295.7	2198.7	2090.7	1901.5	1843.4	1790.4	1757.2	1753.2
37.5°	2540.1	2535.9	2498.4	2417.0	2320.9	2241.5	2086.3	2021.7	1943.7	1895.2	1873.9
40°	2535.1	2539.8	2533.4	2496.6	2422.0	2364.2	2278.7	2215.0	2138.5	2066.5	2023.3
42.5°	2463.1	2469.4	2498.0	2517.1	2497.0	2462.0	2446.8	2399.4	2330.7	2254.2	2194.5
45°	2363.9	2369.5	2406.7	2475.8	2533.4	2543.3	2593.9	2570.2	2512.2	2447.2	2381.2
47.5°	2212.2	2223.1	2266.2	2375.9	2513.3	2608.8	2717.5	2728.4	2694.7	2640.9	2579.5
50°	1992.4	2007.0	2067.4	2223.5	2436.8	2676.1	2901.0	2942.8	2929.4	2874.8	2812.7
52.5°	1767.3	1781.9	1862.5	2028.6	2313.8	2703.5	3081.8	3188.8	3265.9	3322.1	3333.2
55°	1533.1	1549.4	1637.9	1828.9	2149.6	2668.5	3211.0	3332.4	3410.5	3469.3	3493.0
57.5°	1268.9	1287.2	1372.9	1566.0	1917.4	2527.8	3354.7	3526.7	3643.0	3733.6	3784.6
60°	965.6	988.7	1077.3	1272.0	1612.4	2258.2	3418.7	3673.1	3858.2	3994.0	4074.7
62.5°	612.1	635.6	727.8	929.8	1265.4	1889.9	3237.5	3608.8	3924.3	4125.3	4273.1
65°	334.0	344.3	395.6	547.7	853.1	1466.3	2778.3	3216.0	3670.7	3955.4	4182.7
67.5°	250.4	252.0	257.3	294.4	454.4	990.0	2172.2	2573.0	3078.0	3444.6	3715.8
70°	219.4	219.4	220.1	220.4	246.7	536.4	1471.6	1840.6	2303.4	2674.3	3011.5
72.5°	196.6	194.7	193.9	189.6	193.1	274.9	801.1	1132.7	1522.8	1939.0	2253.6
75°	169.8	169.5	169.5	165.3	167.4	193.6	347.5	543.5	846.1	1233.5	1543.1
77.5°	146.9	144.4	144.6	142.2	148.9	148.3	164.8	223.9	368.3	647.9	904.8
80°	121.0	119.3	120.4	118.8	129.4	109.8	111.1	136.9	183.0	284.1	400.6
82.5°	89.6	90.2	96.9	96.3	109.0	73.9	81.3	102.2	123.2	141.6	153.9
85°	52.5	53.4	69.7	73.2	79.9	38.9	49.9	60.8	68.6	76.0	79.3
87.5°	5.7	7.5	38.9	40.0	35.8	11.7	20.1	25.5	27.3	29.0	25.5
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°	481.9	481.9	481.9	481.9	481.9	481.9	481.9	481.9	481.9	481.9	481.9
2.5°	519.1	514.5	509.5	506.6	501.8	497.5	489.7	483.4	476.2	471.3	469.2
5°	579.9	568.9	557.3	548.8	538.2	529.0	511.2	490.0	483.4	469.2	465.6
7.5°	659.1	639.4	619.6	603.3	584.8	569.6	539.9	501.8	496.9	474.1	469.2
10°	752.2	723.2	693.9	668.8	641.8	618.6	574.6	520.8	515.5	486.5	481.6
12.5°	856.3	821.0	783.1	745.6	713.7	680.7	621.0	550.5	542.0	507.7	501.1
15°	963.5	925.3	881.3	836.1	796.8	753.3	678.0	589.5	573.8	533.6	524.4
17.5°	1069.3	1027.9	981.8	931.4	885.3	833.3	739.6	632.9	606.0	559.0	547.3
20°	1171.5	1129.3	1080.9	1031.4	974.1	914.7	802.5	675.9	634.8	580.2	565.0
22.5°	1264.6	1228.5	1180.1	1123.2	1065.0	998.1	866.5	718.6	659.9	596.6	577.2
25°	1362.5	1329.8	1281.6	1226.7	1159.2	1084.9	932.7	759.2	680.0	605.4	581.4
27.5°	1461.7	1433.3	1388.2	1330.4	1257.8	1175.4	1000.0	796.8	696.4	608.2	579.2
30°	1567.5	1545.5	1503.9	1439.4	1366.1	1274.9	1073.1	833.6	706.5	604.3	569.6
32.5°	1667.7	1666.8	1629.7	1563.0	1484.0	1383.5	1150.3	870.7	711.8	593.4	553.0
35°	1771.6	1786.1	1758.3	1694.6	1611.4	1499.9	1235.6	910.4	712.3	573.8	531.4
37.5°	1889.9	1915.6	1903.2	1842.8	1755.4	1632.6	1335.7	955.0	710.1	547.0	499.9
40°	2024.3	2059.6	2059.4	2008.3	1914.9	1781.2	1452.1	1004.8	705.2	513.4	462.7
42.5°	2178.2	2220.3	2232.0	2181.8	2087.2	1943.7	1585.5	1059.7	697.4	480.1	423.6
45°	2354.4	2391.6	2413.4	2366.8	2272.0	2120.4	1738.7	1122.1	687.8	437.4	378.5
47.5°	2543.0	2586.1	2619.1	2579.0	2477.9	2322.2	1920.2	1202.3	684.2	388.4	330.1
50°	2776.9	2821.4	2892.5	2874.5	2819.1	2693.7	2304.2	1392.0	685.8	342.2	289.4
52.5°	3357.1	3459.5	3549.3	3509.3	3377.3	3162.6	2616.3	1497.5	656.0	304.3	261.1
55°	3532.2	3648.3	3781.1	3764.3	3637.7	3421.1	2862.9	1585.5	627.3	276.7	242.7
57.5°	3838.6	3975.7	4161.0	4157.5	4002.2	3758.4	3180.2	1691.0	615.0	260.8	233.5
60°	4163.1	4337.6	4593.8	4633.7	4464.9	4211.3	3555.3	1820.4	616.7	252.0	228.2
62.5°	4400.3	4656.1	5028.6	5148.2	4949.4	4669.8	3944.5	1950.0	606.0	241.6	221.8
65°	4414.7	4783.0	5311.7	5497.8	5296.4	4937.4	4081.8	1924.4	542.4	227.9	211.6
67.5°	4060.9	4540.8	5183.0	5387.0	5181.2	4772.4	3841.2	1682.4	440.9	203.8	193.9
70°	3382.3	3939.2	4605.8	4833.3	4663.1	4249.5	3343.0	1343.9	329.4	171.9	167.4
72.5°	2613.8	3133.2	3738.6	3949.0	3819.0	3455.2	2636.7	979.4	235.3	139.3	135.9
75°	1868.6	2310.9	2750.3	2830.6	2702.2	2368.2	1710.8	611.7	164.8	114.3	109.4
77.5°	1157.0	1444.7	1602.4	1499.2	1335.4	1109.9	696.4	302.2	109.8	93.1	88.2
80°	513.4	602.6	562.6	501.3	396.0	325.5	212.7	134.0	70.7	71.9	69.0
82.5°	172.7	182.5	177.7	176.5	159.2	139.3	90.2	58.0	39.6	46.1	44.9
85°	84.3	88.2	88.5	91.6	79.6	62.0	24.4	22.9	17.0	24.8	25.8
87.5°	25.5	25.8	23.4	25.5	20.5	14.2	4.6	6.4	3.1	6.0	6.0
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):**

	105°	107.5°	110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°
0°	481.9	481.9	481.9	481.9	481.9	481.9	481.9	481.9	481.9	481.9	481.9
2.5°	465.3	463.9	461.4	458.6	457.9	454.4	453.3	451.5	450.4	448.7	447.3
5°	461.0	458.6	455.7	452.6	452.6	447.5	445.5	443.4	443.4	440.2	438.7
7.5°	465.3	462.1	458.9	456.1	457.1	451.5	449.3	447.3	446.8	443.8	442.2
10°	477.3	474.1	470.3	467.4	466.3	461.8	459.3	456.1	454.0	451.8	449.7
12.5°	495.8	491.5	486.5	480.6	478.0	474.1	470.3	466.0	461.0	458.9	455.7
15°	517.7	510.5	503.9	496.5	489.7	485.9	480.6	473.8	467.1	464.2	460.0
17.5°	535.7	528.3	518.7	509.9	497.8	494.6	487.2	479.1	468.1	467.1	460.7
20°	550.9	539.6	527.9	517.3	498.9	497.1	487.9	478.3	462.7	462.7	455.0
22.5°	559.5	543.8	530.0	515.8	492.9	491.5	480.9	469.5	450.4	451.0	441.5
25°	560.8	542.0	524.7	507.7	481.2	478.7	465.3	452.8	432.1	430.6	420.6
27.5°	555.2	533.2	513.0	492.5	463.9	458.6	443.8	428.9	408.3	404.7	394.1
30°	542.0	516.3	493.6	470.0	439.8	431.4	415.7	400.6	379.7	375.0	365.2
32.5°	521.1	491.8	466.7	443.0	409.7	399.1	383.5	368.3	348.2	344.6	335.4
35°	493.6	460.7	434.2	409.0	375.9	364.8	349.9	336.4	318.1	316.7	310.4
37.5°	458.9	424.5	396.3	372.3	340.7	335.1	319.8	309.9	294.7	296.1	292.9
40°	419.7	384.7	357.7	336.4	309.2	304.3	295.2	287.6	274.6	278.5	278.8
42.5°	380.1	344.9	320.5	301.6	278.1	274.9	268.6	264.3	254.4	262.1	265.4
45°	335.1	302.5	281.7	267.2	249.8	249.8	246.7	246.2	239.6	250.4	253.7
47.5°	291.6	266.1	251.5	242.7	230.8	236.3	235.3	238.1	233.2	244.5	247.4
50°	258.6	240.9	232.1	227.9	219.4	228.2	230.3	234.3	230.0	239.8	242.1
52.5°	237.8	226.2	221.2	220.1	214.1	225.0	228.6	232.1	227.1	236.3	236.1
55°	226.2	218.3	216.5	218.6	214.1	224.7	228.2	230.8	226.5	232.8	232.5
57.5°	221.8	217.6	218.6	221.8	218.6	227.5	229.2	232.1	227.9	230.8	232.1
60°	221.5	221.5	225.7	230.0	227.9	234.3	235.3	234.9	231.0	231.5	232.1
62.5°	219.4	224.7	231.8	238.5	237.8	245.5	246.2	241.6	238.5	234.9	233.9
65°	212.7	221.5	231.8	240.9	242.4	254.4	255.7	251.3	249.1	243.1	238.5
67.5°	197.7	209.1	221.2	232.5	234.9	251.3	254.4	256.1	257.3	253.3	247.4
70°	172.7	184.3	196.6	209.8	213.3	231.5	238.1	246.2	252.7	258.4	256.1
72.5°	140.4	151.1	161.8	173.7	179.0	197.7	206.6	220.9	230.8	245.1	251.3
75°	111.5	117.8	124.1	131.6	135.9	154.2	165.3	182.3	195.7	215.9	229.2
77.5°	87.8	91.0	94.1	97.2	99.1	109.4	118.1	135.1	150.7	176.2	196.0
80°	67.6	69.3	69.7	70.7	70.1	75.0	78.2	88.5	101.9	127.0	150.3
82.5°	43.5	44.9	45.6	47.4	43.8	50.2	52.5	53.4	60.5	79.0	95.5
85°	24.4	24.8	25.2	25.8	20.9	27.3	27.6	25.8	25.2	32.6	36.8
87.5°	6.0	5.7	6.0	6.0	2.4	5.7	5.7	4.0	2.9	5.3	4.2
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):**

	135°	145°	155°	165°	175°	180°
0°	481.9	481.9	481.9	481.9	481.9	481.9
2.5°	444.0	443.4	443.8	442.0	441.2	441.5
5°	436.9	435.6	435.6	434.5	433.2	433.2
7.5°	440.2	437.4	436.2	434.2	432.1	432.4
10°	445.1	440.2	436.7	433.4	430.9	430.9
12.5°	448.3	439.5	434.2	429.8	427.1	427.1
15°	449.1	435.6	427.9	423.2	420.3	420.3
17.5°	444.8	427.9	417.9	411.9	408.6	409.4
20°	434.2	413.3	401.6	395.3	392.0	392.4
22.5°	417.5	393.5	380.1	372.5	369.5	369.5
25°	394.9	368.7	354.2	348.2	345.4	345.4
27.5°	369.1	342.2	329.4	324.7	323.0	323.0
30°	340.0	317.7	308.6	305.3	302.5	302.5
32.5°	315.7	299.7	296.5	292.3	284.9	284.5
35°	296.1	294.4	291.9	279.2	268.6	267.2
37.5°	285.5	296.1	280.6	258.6	250.2	249.8
40°	279.9	289.9	262.9	252.2	251.3	251.3
42.5°	266.4	273.5	261.9	255.7	255.7	256.1
45°	252.2	258.4	264.3	259.0	260.8	261.1
47.5°	242.4	254.4	264.3	259.7	263.3	265.4
50°	233.2	250.8	259.0	259.0	262.9	263.3
52.5°	231.0	246.0	254.0	258.0	258.4	256.6
55°	231.5	242.1	250.2	255.1	253.1	253.1
57.5°	231.0	239.8	246.9	248.7	249.8	249.8
60°	231.5	237.1	242.7	242.1	245.5	245.5
62.5°	232.5	233.2	236.1	235.3	240.6	240.6
65°	234.9	228.2	226.5	227.1	233.5	233.2
67.5°	239.6	221.5	215.9	216.2	225.4	223.9
70°	246.2	212.3	203.8	201.7	217.3	214.8
72.5°	248.4	201.7	188.3	186.0	195.3	188.3
75°	238.5	193.1	171.5	164.5	160.6	158.6
77.5°	212.7	187.8	154.2	139.3	133.4	132.1
80°	176.2	177.0	131.6	113.9	132.3	132.1
82.5°	133.0	152.8	105.5	98.8	95.8	79.9
85°	64.4	115.1	81.0	67.9	40.8	38.5
87.5°	5.7	48.1	46.7	30.5	13.8	13.0
90°	0.0	0.0	0.0	0.0	0.0	0.0

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