

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: P196237

Luminaire Tested: **NAV-AF-01-D-UNV-SLR**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196237  
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-01-D-UNV-SLR  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(1) 70 CRI, 4000K, 1050mA LIGHTSQUARE WITH 16 LEDS EACH AND SPILL LIGHT  
ELIMINATOR RIGHT OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5519.8 lumens  
Efficiency: N/A  
Efficacy: 93.6 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B1 - U0 - G2

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

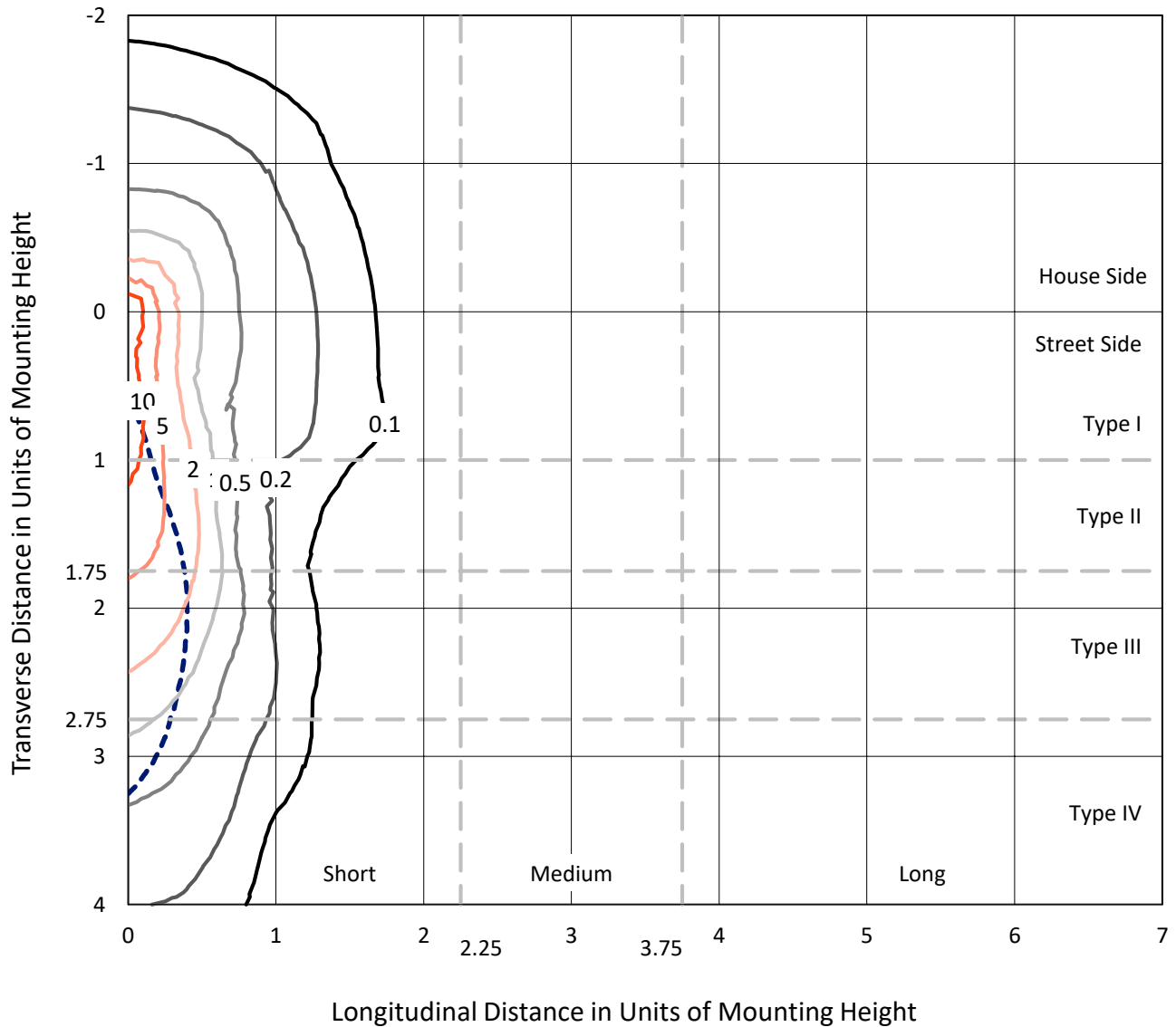


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### Iso-Footcandle Lines of Horizontal Illumination

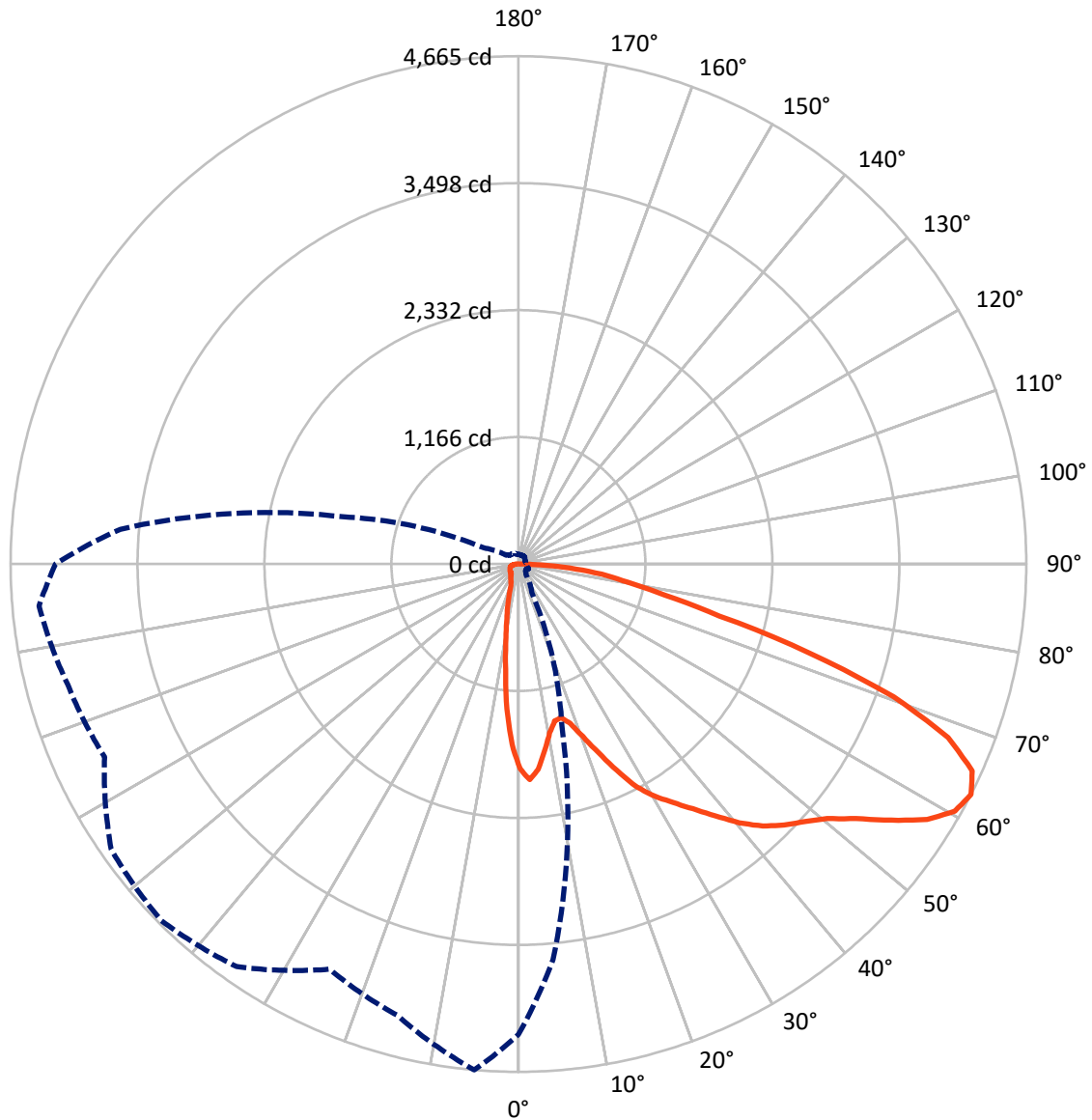
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 18.8 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
<b>House Side</b>	Lumens	977.8	0.0	977.8
	% Fixture	17.7	0.0	17.7
<b>Street Side</b>	Lumens	4542.0	0.0	4542.0
	% Fixture	82.3	0.0	82.3
<b>Total</b>	Lumens	5519.8	0.0	5519.8
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	136.9	2.5
10°-20°	250.0	4.5
20°-30°	359.5	6.5
30°-40°	550.6	10.0
40°-50°	805.0	14.6
50°-60°	1171.3	21.2
60°-70°	1357.2	24.6
70°-80°	707.5	12.8
80°-90°	181.9	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°	5519.8	100.0
0°-180°	5519.8	100.0



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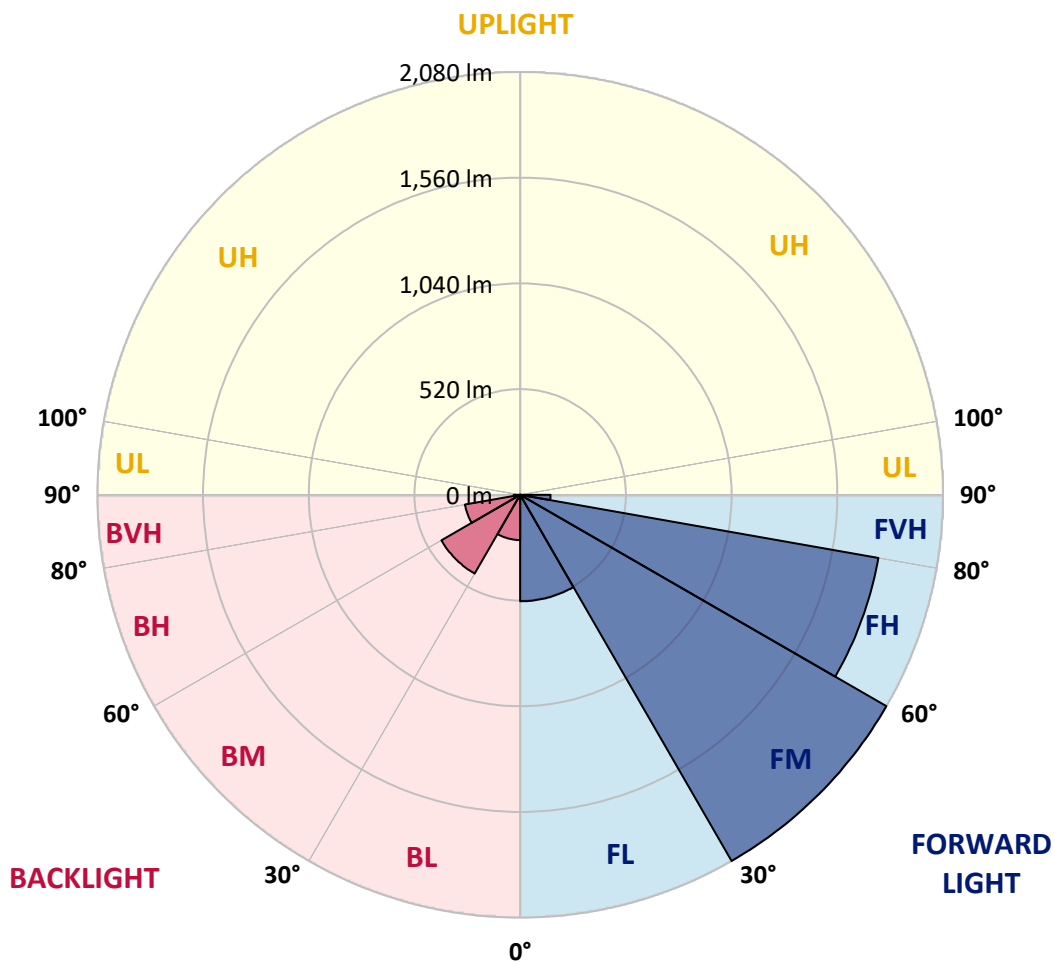
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	523.9	9.5			
FM (30°-60°)	2079.6	37.7			
FH (60°-80°)	1788.9	32.4			G1/1800
FVH (80°-90°)	149.6	2.7			G2/225
BL (0°-30°)	222.5	4.0	B1/500		
BM (30°-60°)	447.4	8.1	B1/1000		
BH (60°-80°)	275.7	5.0	B1/500		G1/500
BVH (80°-90°)	32.2	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-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1881.8	1881.8	1881.8	1881.8	1881.8	1881.8	1881.8	1881.8	1881.8	1881.8	1881.8
2.5°	1942.7	1915.5	1852.6	1797.4	1728.6	1676.9	1614.1	1580.9	1556.4	1540.1	1526.9
5°	1814.6	1748.9	1628.8	1523.6	1409.9	1327.9	1231.8	1179.5	1147.0	1129.4	1121.5
7.5°	1624.4	1537.6	1382.3	1241.0	1099.0	996.6	923.7	846.1	804.9	778.1	769.3
10°	1458.4	1360.3	1175.1	1016.2	906.5	833.6	771.2	700.0	647.1	601.1	583.9
12.5°	1362.0	1247.9	1036.6	892.9	800.9	722.8	656.7	579.9	524.3	476.3	457.9
15°	1341.5	1214.2	978.6	814.5	701.5	607.5	528.3	444.7	390.3	350.6	337.8
17.5°	1403.2	1246.3	954.1	742.8	606.7	491.8	394.2	304.5	259.3	237.7	232.5
20°	1530.0	1316.7	942.5	678.3	514.6	378.6	272.5	206.9	184.5	178.1	177.7
22.5°	1697.0	1431.2	955.3	625.5	428.2	279.4	199.7	170.1	160.9	157.3	157.3
25°	1885.4	1586.1	989.3	585.1	352.2	217.3	172.1	156.1	148.4	144.8	145.3
27.5°	2116.0	1774.6	1035.7	547.9	297.8	190.5	160.9	147.3	139.6	136.1	136.5
30°	2289.7	1936.7	1075.7	513.9	269.8	179.7	154.9	142.1	133.7	128.5	128.1
32.5°	2452.1	2079.6	1108.2	489.5	253.7	160.5	140.0	130.4	123.3	117.2	116.1
35°	2631.8	2214.0	1123.4	488.7	243.4	144.8	128.1	116.5	109.3	102.5	101.3
37.5°	2835.5	2378.5	1136.2	493.5	237.7	134.8	122.4	111.3	105.3	98.4	96.9
40°	3047.7	2539.4	1146.2	497.5	236.9	128.1	118.0	108.0	102.1	94.8	93.3
42.5°	3229.8	2681.9	1159.8	495.8	231.3	126.8	115.3	105.3	99.6	92.5	90.4
45°	3375.4	2795.1	1181.0	495.5	222.9	129.7	114.5	104.4	97.7	90.0	88.5
47.5°	3511.1	2922.8	1225.9	493.9	213.7	128.9	118.9	103.6	96.9	89.2	88.1
50°	3666.4	3094.5	1302.3	481.9	200.9	123.3	126.8	102.8	94.8	88.1	86.8
52.5°	3882.5	3345.9	1415.6	460.2	183.3	117.2	128.1	102.5	91.7	85.6	84.1
55°	4136.6	3615.2	1537.6	429.0	160.1	106.9	121.6	100.9	88.5	82.0	79.7
57.5°	4333.1	3814.1	1622.9	384.2	137.3	100.9	108.4	97.3	84.5	78.1	76.0
60°	4388.4	3822.9	1638.1	330.6	125.6	96.9	93.3	106.1	81.2	74.5	72.4
62.5°	4322.4	3647.9	1538.8	293.0	121.6	92.9	84.8	101.3	78.1	71.2	69.3
65°	4126.7	3352.6	1316.7	287.3	125.6	89.2	80.4	80.8	74.9	68.0	66.1
67.5°	3669.6	2918.0	1037.4	290.9	130.4	85.6	77.2	73.7	71.2	65.3	62.8
70°	2984.5	2349.3	817.2	297.4	134.8	80.8	73.2	68.8	66.8	60.5	59.2
72.5°	2298.9	1880.2	644.8	293.0	139.3	76.0	67.6	64.0	61.7	55.6	54.4
75°	1632.5	1494.0	473.8	251.3	127.7	69.3	61.3	58.0	56.1	49.6	49.2
77.5°	1176.6	1119.0	329.8	188.9	100.9	60.9	54.0	51.2	50.0	42.9	42.9
80°	938.6	851.7	197.3	123.3	73.7	50.4	45.2	44.0	42.9	35.6	36.0
82.5°	674.3	590.8	126.0	76.8	54.0	38.5	35.2	34.8	32.8	26.4	26.4
85°	345.8	301.8	80.8	51.7	38.1	24.9	23.2	22.4	21.2	16.4	16.4
87.5°	67.2	92.5	44.8	25.2	18.4	8.8	8.8	7.6	8.8	6.0	6.4
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):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	1881.8	1881.8	1881.8	1881.8	1881.8	1881.8	1881.8	1881.8	1881.8	1881.8	1881.8
2.5°	1552.0	1544.0	1538.4	1535.7	1576.1	1592.8	1612.1	1639.7	1658.5	1650.5	1676.1
5°	1159.0	1164.6	1177.4	1197.5	1253.9	1280.7	1297.9	1320.7	1337.1	1320.7	1347.9
7.5°	792.5	800.9	828.1	869.3	937.3	967.3	973.3	973.7	970.2	943.3	961.7
10°	583.5	566.7	572.8	602.3	663.2	690.0	692.7	685.6	684.4	673.6	694.4
12.5°	452.2	429.0	415.4	420.2	465.9	487.8	491.4	495.5	511.9	517.1	542.7
15°	337.4	325.4	315.4	311.0	340.9	358.2	360.2	369.8	387.0	391.8	413.8
17.5°	237.3	240.5	245.7	247.8	269.3	280.6	277.3	277.3	280.2	279.0	291.3
20°	181.3	187.7	197.7	207.4	226.9	233.3	225.4	215.3	208.9	205.7	208.5
22.5°	160.1	164.5	170.9	183.3	199.7	203.0	192.5	184.5	178.5	175.3	175.7
25°	148.4	152.9	158.0	168.1	182.1	183.7	174.1	168.9	164.1	160.9	160.1
27.5°	138.5	141.3	144.4	150.9	165.3	166.1	159.7	156.5	153.2	150.9	150.1
30°	129.3	130.4	131.7	138.1	148.8	150.1	146.9	145.3	144.0	142.5	142.5
32.5°	117.2	118.9	120.9	126.4	136.9	138.5	136.5	135.2	133.3	132.5	131.2
35°	102.8	106.9	111.3	118.0	129.3	130.1	127.7	124.1	119.3	118.0	117.2
37.5°	96.9	97.7	103.2	111.3	122.9	123.7	120.5	114.5	110.9	111.3	112.0
40°	92.9	94.0	97.3	105.3	116.8	118.0	115.3	110.9	107.3	107.6	108.8
42.5°	89.6	91.2	93.3	98.4	110.1	112.4	111.7	107.6	104.0	104.9	106.5
45°	88.1	89.2	89.2	92.9	104.0	107.6	108.0	104.9	102.1	102.8	104.9
47.5°	87.3	87.3	86.0	88.9	100.0	103.6	104.4	102.8	101.3	102.1	104.0
50°	86.0	84.5	83.3	85.6	96.9	100.0	100.9	99.6	100.5	102.1	103.2
52.5°	82.4	80.8	80.8	82.4	93.6	96.9	97.3	96.5	98.1	100.0	102.1
55°	78.1	78.1	78.5	80.0	92.1	94.4	94.0	93.3	94.8	97.3	99.2
57.5°	74.1	73.7	75.6	77.6	90.0	91.7	90.8	90.8	92.1	94.0	96.1
60°	71.6	69.7	71.2	74.5	88.1	89.6	88.5	88.1	90.0	91.7	93.3
62.5°	69.3	67.2	68.4	71.6	85.2	86.4	85.6	85.6	87.7	88.9	90.4
65°	65.7	64.9	65.7	68.8	82.9	83.3	83.3	83.7	85.2	86.0	87.7
67.5°	62.4	62.4	62.8	66.1	80.8	80.0	80.0	82.0	82.4	83.3	84.8
70°	58.4	59.2	59.2	63.2	79.3	76.4	76.8	78.5	79.3	80.0	80.4
72.5°	54.0	54.4	55.2	60.5	76.8	72.8	73.2	74.5	74.9	76.0	76.4
75°	49.2	49.6	50.8	57.6	75.3	69.3	68.4	69.3	70.1	70.8	70.5
77.5°	43.6	44.4	45.6	56.1	70.1	68.4	62.4	63.2	64.0	64.0	63.6
80°	36.8	38.1	40.0	53.6	59.2	66.1	55.6	56.1	56.5	56.5	55.6
82.5°	27.6	30.0	32.8	44.4	46.4	56.5	48.0	48.8	47.7	46.9	46.4
85°	18.0	20.0	24.0	30.8	34.1	44.4	39.6	40.0	37.6	37.2	37.2
87.5°	7.2	7.6	10.8	15.7	20.5	27.6	28.4	29.3	27.2	27.2	28.0
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°	1881.8	1881.8	1881.8	1881.8	1881.8	1881.8	1881.8	1881.8	1881.8	1881.8	1881.8
2.5°	1715.0	1755.0	1801.0	1847.8	1886.2	1935.8	1983.9	2035.1	2061.1	2076.3	2119.1
5°	1390.4	1445.2	1510.4	1583.6	1644.5	1748.5	1860.6	1985.4	2045.5	2104.7	2216.8
7.5°	994.5	1048.2	1124.2	1219.1	1305.5	1442.8	1590.5	1759.4	1842.6	1938.7	2122.3
10°	738.4	795.2	864.1	944.5	1029.8	1172.6	1338.3	1528.0	1619.6	1728.2	1937.1
12.5°	598.7	665.1	736.4	808.4	881.7	977.7	1151.4	1362.4	1460.8	1570.0	1779.3
15°	467.1	538.3	615.1	693.6	766.4	873.7	1051.0	1300.3	1412.8	1518.5	1689.7
17.5°	330.6	397.8	484.3	579.5	685.2	812.0	1029.4	1327.5	1464.0	1574.4	1689.3
20°	225.4	271.8	358.2	471.1	601.5	762.4	1037.4	1423.1	1593.7	1715.0	1758.6
22.5°	180.1	202.1	260.5	375.4	529.5	726.4	1070.2	1554.5	1779.7	1927.4	1884.6
25°	163.7	176.0	206.5	296.6	465.4	702.4	1134.2	1727.8	1988.3	2138.0	2036.3
27.5°	153.6	164.5	184.1	243.8	410.2	686.8	1215.5	1931.8	2223.2	2346.0	2194.4
30°	147.3	158.0	176.0	218.9	368.6	663.6	1286.7	2118.3	2410.9	2490.6	2279.6
32.5°	134.8	143.3	158.0	196.1	337.4	636.4	1348.4	2285.3	2588.2	2614.7	2382.1
35°	122.0	130.8	145.7	177.7	319.0	615.1	1380.8	2433.3	2763.9	2738.6	2483.7
37.5°	117.2	124.5	138.1	164.5	308.9	601.1	1393.2	2579.0	2952.4	2875.9	2554.6
40°	114.1	120.5	132.5	155.7	306.2	587.9	1390.4	2717.5	3135.3	3018.0	2610.3
42.5°	111.7	117.2	128.5	149.7	298.6	575.5	1381.2	2837.2	3281.8	3140.5	2663.5
45°	109.7	115.7	126.8	152.9	284.6	561.9	1375.6	2946.4	3394.3	3243.8	2734.7
47.5°	108.8	115.7	127.3	152.1	269.3	546.7	1395.5	3067.6	3492.3	3330.6	2829.6
50°	107.6	115.3	136.1	144.8	248.6	527.8	1463.2	3212.2	3595.2	3428.2	2952.4
52.5°	105.7	114.9	145.3	139.3	221.7	501.9	1572.9	3416.2	3772.8	3618.4	3134.1
55°	103.2	115.7	138.9	130.4	193.3	468.2	1682.5	3696.0	4061.0	3925.0	3395.1
57.5°	100.5	114.5	131.2	122.4	169.7	425.9	1765.7	3925.4	4298.7	4241.2	3715.7
60°	98.4	117.2	118.0	117.6	154.5	385.4	1773.8	3910.5	4367.2	4446.5	4029.4
62.5°	96.1	119.7	107.6	114.1	146.9	347.8	1674.9	3668.4	4251.5	4420.0	4285.1
65°	92.9	104.4	102.1	110.9	146.9	327.8	1444.8	3265.4	3931.7	4170.3	4424.1
67.5°	89.6	94.8	98.1	106.5	150.1	308.9	1161.0	2754.3	3427.5	3767.2	4268.0
70°	85.2	89.6	93.6	102.5	148.4	295.7	913.7	2207.6	2820.7	3209.7	3836.1
72.5°	81.2	84.5	88.5	96.5	148.4	289.8	734.0	1731.8	2153.6	2481.4	3177.7
75°	75.3	78.1	81.6	90.4	145.7	264.9	551.1	1387.5	1575.7	1781.0	2507.4
77.5°	69.3	71.2	74.1	82.9	131.2	221.4	389.8	1074.6	1167.4	1281.1	1954.7
80°	61.7	63.2	65.3	74.1	108.8	171.7	253.7	840.5	872.9	927.7	1285.8
82.5°	52.8	55.2	55.6	63.6	87.7	124.5	150.9	575.9	575.5	655.9	907.3
85°	43.3	44.4	45.2	50.0	64.9	82.9	99.2	314.6	280.6	393.0	788.0
87.5°	32.4	31.2	32.4	33.7	42.9	48.8	53.2	58.0	34.8	71.2	458.3
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°	1881.8	1881.8	1881.8	1881.8	1881.8	1881.8	1881.8	1881.8
2.5°	2142.0	2165.6	2151.6	2134.8	2092.8	2031.1	1983.9	1942.7
5°	2294.5	2338.1	2318.8	2256.4	2147.6	2023.9	1893.8	1814.6
7.5°	2275.2	2361.7	2354.1	2250.0	2094.0	1911.8	1729.0	1624.4
10°	2121.6	2242.8	2263.6	2157.2	1991.9	1788.2	1576.5	1458.4
12.5°	1954.2	2056.3	2098.8	2058.3	1902.6	1695.7	1480.0	1362.0
15°	1814.2	1865.9	1907.8	1933.9	1837.4	1662.9	1463.2	1341.5
17.5°	1710.6	1700.6	1735.7	1798.1	1802.1	1706.5	1539.2	1403.2
20°	1660.5	1582.1	1602.5	1690.1	1792.6	1817.4	1690.9	1530.0
22.5°	1657.7	1535.2	1539.2	1633.7	1820.2	1968.7	1880.2	1697.0
25°	1701.0	1530.0	1533.6	1627.7	1869.0	2121.2	2099.1	1885.4
27.5°	1774.6	1552.4	1550.1	1654.1	1934.3	2248.4	2320.1	2116.0
30°	1854.2	1584.9	1578.8	1696.6	1998.3	2326.9	2477.0	2289.7
32.5°	1953.4	1642.4	1621.7	1758.6	2061.6	2402.1	2611.0	2452.1
35°	2047.9	1726.9	1697.0	1847.4	2129.2	2485.8	2761.1	2631.8
37.5°	2144.4	1853.0	1836.2	1975.5	2224.8	2576.6	2932.8	2835.5
40°	2268.0	2032.3	2024.3	2161.6	2352.5	2675.8	3125.3	3047.7
42.5°	2401.3	2222.8	2216.0	2375.3	2510.9	2775.5	3290.2	3229.8
45°	2537.0	2453.8	2455.3	2603.4	2677.9	2869.6	3419.8	3375.4
47.5°	2697.1	2706.3	2763.5	2839.9	2840.3	2974.4	3534.7	3511.1
50°	2900.4	3011.3	3116.9	3128.9	3004.4	3112.9	3675.2	3666.4
52.5°	3130.5	3363.1	3485.9	3447.9	3164.5	3284.6	3882.9	3882.5
55°	3403.9	3730.8	3846.5	3781.6	3356.2	3508.3	4154.3	4136.6
57.5°	3687.2	4084.6	4177.8	4093.4	3596.0	3768.9	4426.4	4333.1
60°	3993.4	4389.2	4484.0	4357.2	3864.9	4028.6	4606.6	4388.4
62.5°	4193.9	4567.3	4635.3	4513.7	4105.8	4293.1	4664.6	4322.4
65°	4204.3	4448.8	4466.8	4423.6	4208.3	4522.9	4580.5	4126.7
67.5°	3918.5	3932.9	3956.6	4003.0	3989.4	4420.4	4256.3	3669.6
70°	3307.4	3115.3	3192.9	3237.7	3338.6	3931.7	3657.2	2984.5
72.5°	2528.9	2248.4	2336.5	2321.3	2531.0	3225.0	2797.9	2298.9
75°	1820.2	1533.2	1540.1	1540.9	1818.6	2574.2	1907.8	1632.5
77.5°	1237.1	1084.9	1107.4	1093.4	1217.1	2016.7	1373.5	1176.6
80°	846.1	842.1	846.9	814.1	811.6	1303.5	1016.9	938.6
82.5°	627.6	579.9	573.2	538.3	622.0	996.6	772.0	674.3
85°	495.1	321.0	279.0	336.6	538.7	916.9	470.7	345.8
87.5°	209.7	126.0	76.4	151.3	299.3	672.0	130.4	67.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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