

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: P196207

Luminaire Tested: **NAV-AF-01-D-UNV-SLL-800**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196207  
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-SLL-800  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(1) 70 CRI, 4000K, 800mA LIGHTSQUARE WITH 16 LEDS EACH AND SPILL LIGHT  
ELIMINATOR LEFT OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4460.1 lumens  
Efficiency: N/A  
Efficacy: 101.4 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

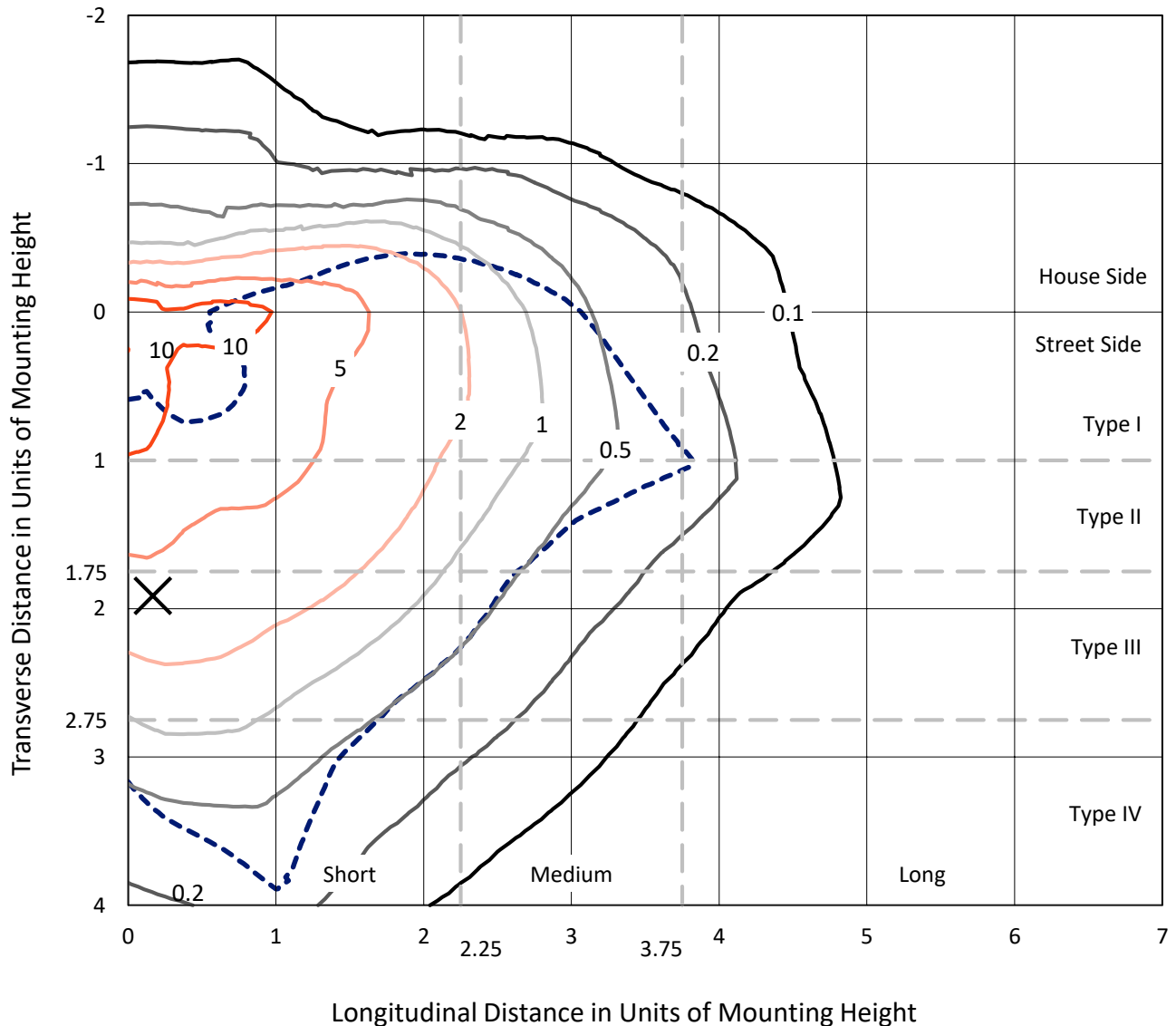
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

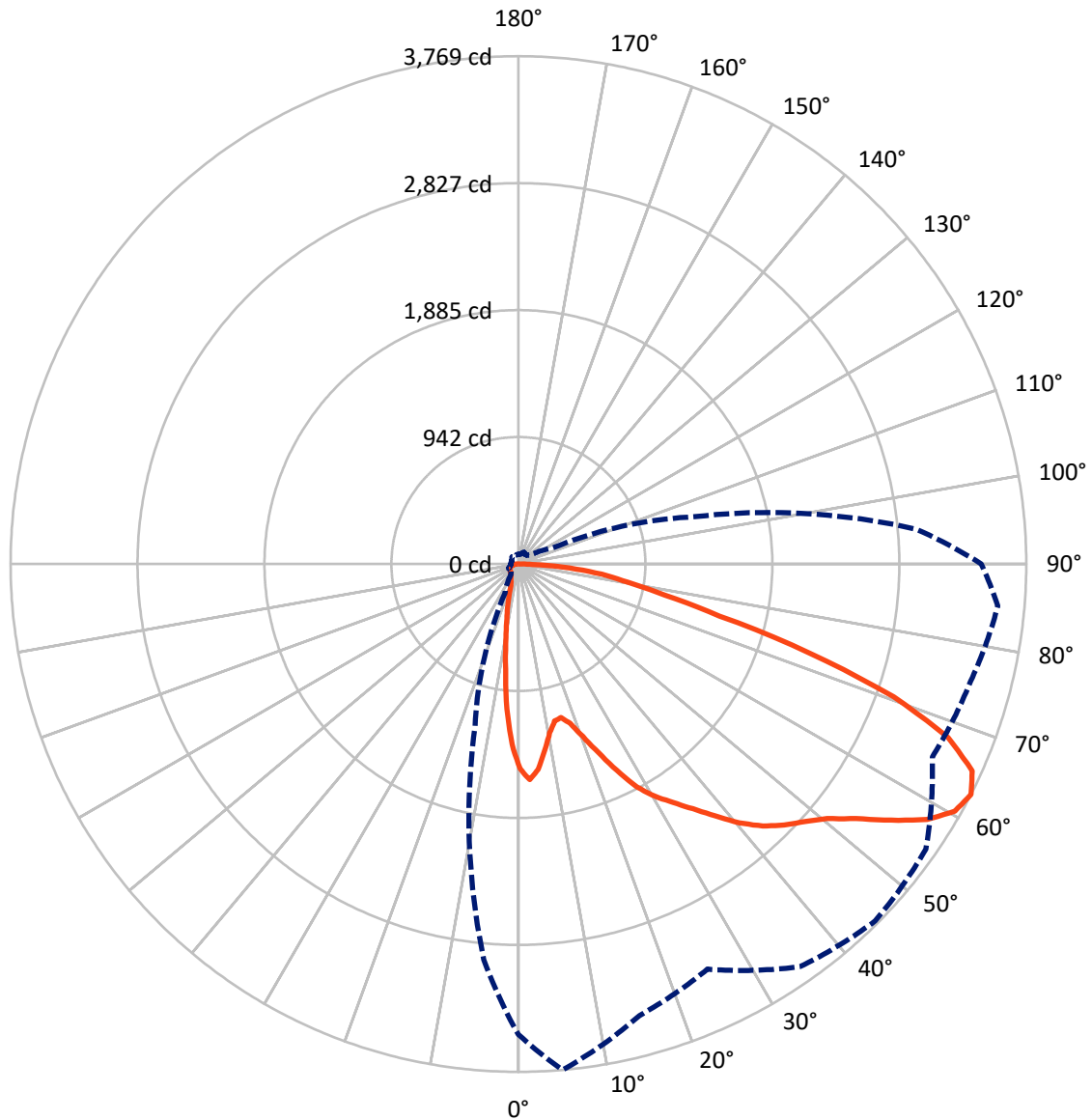
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 17.5 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 5-Deg Lateral      - - - Horizontal Cone Through 62.5-Deg Vertical

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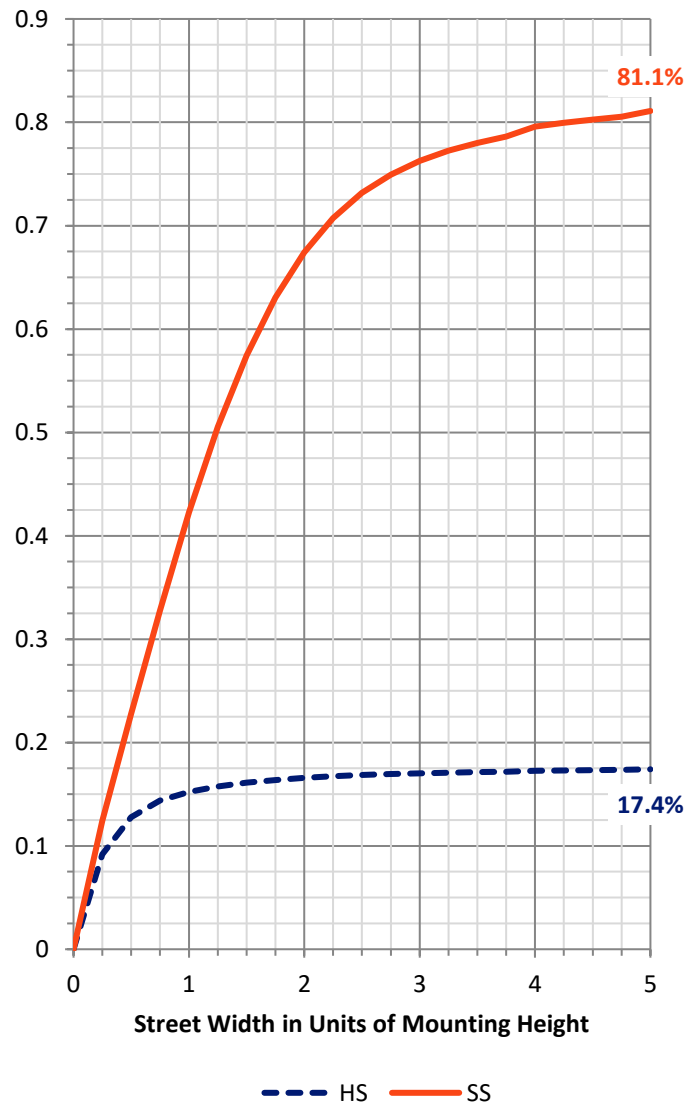
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	790.1	0.0	790.1
	% Fixture	17.7	0.0	17.7
<b>Street Side</b>	Lumens	3670.0	0.0	3670.0
	% Fixture	82.3	0.0	82.3
<b>Total</b>	Lumens	4460.1	0.0	4460.1
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	110.6	2.5
10°-20°	202.0	4.5
20°-30°	290.5	6.5
30°-40°	444.9	10.0
40°-50°	650.5	14.6
50°-60°	946.5	21.2
60°-70°	1096.6	24.6
70°-80°	571.6	12.8
80°-90°	146.9	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°	4460.1	100.0
0°-180°	4460.1	100.0



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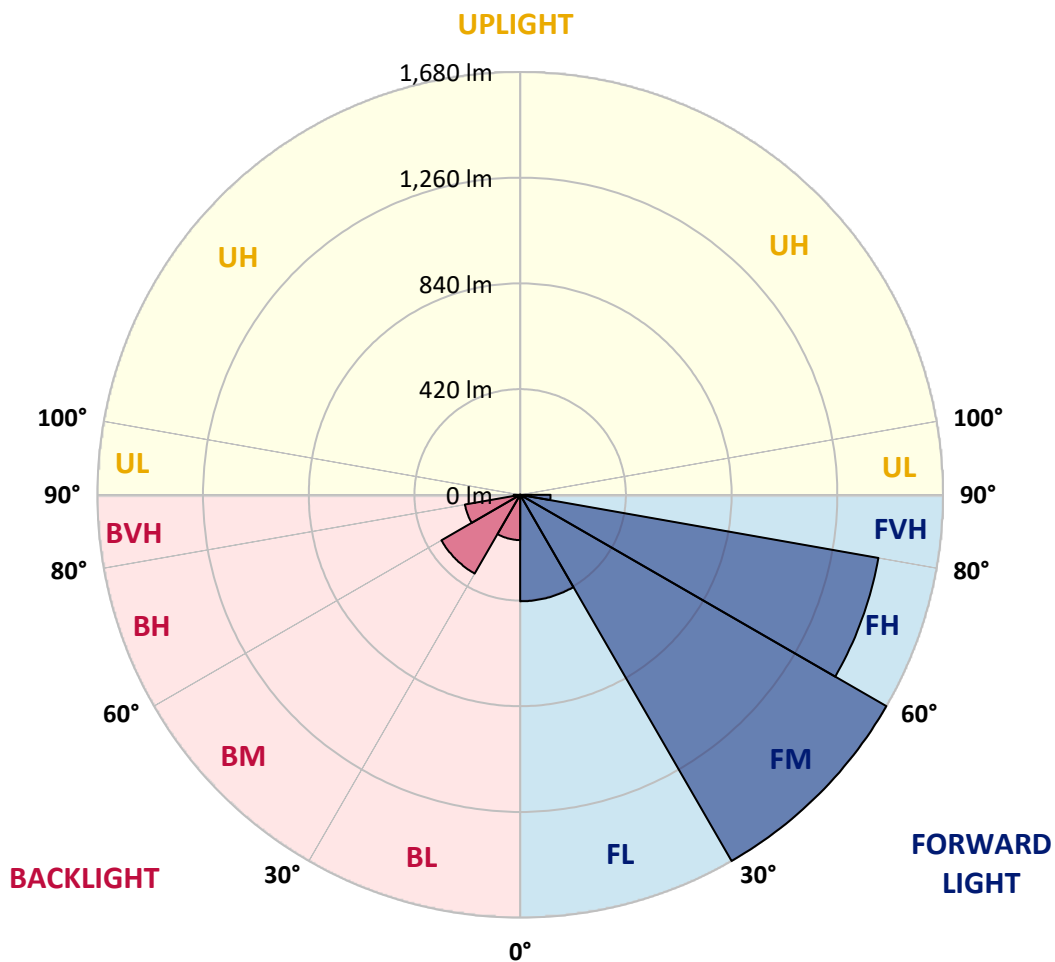
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	423.3	9.5			
FM	(30°-60°)	1680.3	37.7			
FH	(60°-80°)	1445.4	32.4			G1/1800
FVH	(80°-90°)	120.9	2.7			G2/225
BL	(0°-30°)	179.8	4.0	B1/500		
BM	(30°-60°)	361.5	8.1	B1/1000		
BH	(60°-80°)	222.8	5.0	B1/500		G1/500
BVH	(80°-90°)	26.1	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°	1520.5	1520.5	1520.5	1520.5	1520.5	1520.5	1520.5	1520.5	1520.5	1520.5	1520.5
2.5°	1569.7	1603.0	1641.1	1690.9	1724.9	1738.5	1749.8	1730.7	1712.3	1677.6	1665.4
5°	1466.2	1530.2	1635.3	1735.2	1823.2	1873.6	1889.2	1853.9	1791.2	1700.7	1652.8
7.5°	1312.5	1397.0	1544.8	1692.0	1818.0	1902.1	1908.2	1838.4	1714.9	1566.4	1488.8
10°	1178.4	1273.8	1444.8	1609.4	1743.0	1829.0	1812.3	1714.3	1565.1	1396.3	1308.8
12.5°	1100.5	1195.8	1370.1	1537.3	1663.1	1695.7	1661.5	1579.0	1437.8	1268.7	1180.3
15°	1083.9	1182.2	1343.6	1484.6	1562.6	1541.6	1507.6	1465.9	1365.3	1226.9	1141.5
17.5°	1133.7	1243.7	1378.8	1456.2	1452.9	1402.5	1374.0	1382.1	1365.0	1272.1	1182.9
20°	1236.2	1366.3	1468.4	1448.4	1365.6	1294.9	1278.3	1341.7	1420.9	1385.7	1287.7
22.5°	1371.2	1519.2	1590.7	1470.7	1320.0	1243.7	1240.4	1339.5	1522.8	1557.3	1438.1
25°	1523.5	1696.2	1714.0	1510.2	1315.2	1239.2	1236.2	1374.3	1645.3	1727.5	1606.5
27.5°	1709.7	1874.7	1816.8	1562.9	1336.5	1252.4	1254.3	1433.9	1773.1	1895.6	1796.4
30°	1850.0	2001.4	1880.1	1614.6	1370.8	1275.7	1280.5	1498.2	1841.9	2012.3	1948.0
32.5°	1981.4	2109.7	1940.9	1665.8	1420.9	1310.3	1327.2	1578.4	1924.8	2112.6	2091.3
35°	2126.5	2231.0	2008.5	1720.4	1492.7	1371.2	1395.4	1654.7	2006.9	2212.8	2233.2
37.5°	2291.1	2369.8	2081.9	1797.6	1596.2	1483.7	1497.2	1732.7	2064.1	2323.8	2385.5
40°	2462.5	2525.3	2162.1	1900.8	1746.6	1635.7	1642.1	1832.6	2109.1	2438.6	2533.3
42.5°	2609.6	2658.4	2242.6	2028.9	1919.3	1790.6	1796.0	1940.2	2152.1	2537.5	2651.7
45°	2727.4	2763.3	2318.6	2163.7	2103.6	1983.9	1982.7	2049.9	2209.7	2621.0	2742.5
47.5°	2836.9	2856.1	2403.3	2295.0	2294.7	2232.9	2186.7	2179.3	2286.3	2691.2	2821.8
50°	2962.5	2969.6	2515.2	2427.6	2528.2	2518.5	2433.1	2343.5	2385.5	2770.0	2904.9
52.5°	3137.1	3137.4	2653.9	2557.0	2785.9	2816.6	2717.4	2529.5	2532.4	2923.7	3048.5
55°	3342.4	3356.7	2834.7	2711.8	3055.6	3108.0	3014.5	2750.3	2743.2	3171.4	3281.3
57.5°	3501.3	3576.5	3045.2	2905.6	3307.5	3375.7	3300.4	2979.2	3002.3	3426.9	3473.4
60°	3545.9	3722.1	3255.1	3122.9	3520.6	3623.1	3546.5	3226.7	3255.7	3592.7	3528.7
62.5°	3492.5	3769.0	3468.9	3317.5	3647.0	3745.3	3690.4	3388.7	3462.4	3571.4	3435.3
65°	3334.3	3701.0	3654.5	3400.3	3574.3	3609.2	3594.6	3397.1	3574.6	3369.6	3176.9
67.5°	2965.0	3439.2	3571.7	3223.4	3234.5	3196.9	3177.8	3166.2	3448.5	3044.0	2769.4
70°	2411.4	2955.0	3176.9	2697.6	2616.1	2579.9	2517.2	2672.4	3099.5	2593.5	2279.1
72.5°	1857.5	2260.7	2605.8	2045.1	1875.6	1887.9	1816.8	2043.4	2567.6	2005.0	1740.1
75°	1319.1	1541.6	2080.0	1469.5	1245.0	1244.3	1238.9	1470.7	2026.0	1439.0	1273.2
77.5°	950.7	1109.8	1629.5	983.4	883.4	894.8	876.7	999.5	1579.3	1035.1	943.3
80°	758.3	821.7	1053.2	655.8	657.8	684.3	680.4	683.6	1039.0	749.6	705.3
82.5°	544.9	623.8	805.2	502.6	435.0	463.1	468.6	507.1	733.1	530.0	465.0
85°	279.4	380.3	740.8	435.3	272.0	225.4	259.3	400.0	636.7	317.5	226.7
87.5°	54.3	105.5	543.0	241.9	122.2	61.8	101.9	169.4	370.3	57.6	28.1
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°	1520.5	1520.5	1520.5	1520.5	1520.5	1520.5	1520.5	1520.5	1520.5	1520.5	1520.5
2.5°	1644.4	1603.0	1564.2	1524.1	1493.0	1455.2	1418.0	1385.7	1354.3	1333.6	1340.1
5°	1604.3	1503.4	1412.8	1328.7	1279.6	1220.4	1167.7	1123.4	1089.1	1067.1	1080.4
7.5°	1421.6	1285.1	1165.8	1054.9	985.0	908.4	846.9	803.6	777.0	762.2	783.9
10°	1234.7	1081.4	947.5	832.1	763.2	698.2	642.5	596.6	561.1	544.2	553.0
12.5°	1100.8	930.4	790.0	712.4	653.3	595.1	537.5	483.8	438.5	417.8	413.6
15°	1050.7	849.2	705.9	619.3	560.4	497.1	435.0	377.4	334.4	316.6	312.7
17.5°	1072.7	831.8	656.1	553.6	468.2	391.3	321.4	267.1	235.4	225.4	226.4
20°	1149.9	838.2	616.0	486.0	380.6	289.4	219.5	182.1	168.5	166.2	168.8
22.5°	1256.0	864.7	587.0	427.8	303.3	210.5	163.3	145.6	142.0	141.7	144.2
25°	1396.0	916.5	567.5	376.1	239.6	166.8	142.3	132.3	129.3	130.0	132.6
27.5°	1560.9	982.1	555.0	331.4	196.9	148.7	132.9	124.2	121.2	121.9	123.9
30°	1711.6	1039.6	536.1	297.8	176.9	142.3	127.8	119.0	115.1	115.1	116.4
32.5°	1846.5	1089.4	514.1	272.6	158.5	127.8	115.8	108.9	106.1	107.0	107.7
35°	1966.1	1115.6	497.1	257.8	143.6	117.7	105.8	98.6	94.7	95.4	96.4
37.5°	2083.9	1125.7	485.7	249.6	132.9	111.6	100.6	94.7	90.5	89.9	89.6
40°	2195.8	1123.4	475.1	247.3	125.8	107.0	97.4	92.2	88.0	87.0	86.6
42.5°	2292.4	1115.9	465.0	241.2	120.9	103.8	94.7	90.2	86.0	84.7	84.1
45°	2380.7	1111.4	454.0	230.0	123.6	102.5	93.5	88.6	84.7	83.1	82.4
47.5°	2478.7	1127.6	441.7	217.7	122.9	102.8	93.5	88.0	84.1	82.4	81.8
50°	2595.4	1182.2	426.6	200.8	117.0	110.0	93.1	87.0	83.5	82.4	81.1
52.5°	2760.3	1270.9	405.5	179.1	112.5	117.4	92.8	85.4	82.4	80.8	79.3
55°	2986.4	1359.5	378.4	156.2	105.5	112.2	93.5	83.5	80.2	78.6	76.6
57.5°	3171.7	1426.7	344.1	137.1	98.9	106.1	92.5	81.1	77.6	76.0	74.4
60°	3159.7	1433.3	311.4	124.8	95.0	95.4	94.7	79.6	75.4	74.1	72.7
62.5°	2964.1	1353.4	281.0	118.7	92.2	87.0	96.7	77.6	73.0	71.8	70.8
65°	2638.4	1167.4	264.8	118.7	89.6	82.4	84.4	75.0	70.8	69.6	68.8
67.5°	2225.5	938.1	249.6	121.2	86.0	79.3	76.6	72.4	68.5	67.3	66.6
70°	1783.7	738.3	239.0	120.0	82.8	75.7	72.4	68.8	65.0	64.7	64.0
72.5°	1399.3	593.1	234.2	120.0	77.9	71.5	68.2	65.7	61.8	61.5	60.5
75°	1121.2	445.3	214.1	117.7	73.0	66.0	63.0	60.8	56.9	57.3	56.6
77.5°	868.3	315.0	178.8	106.1	66.9	59.8	57.6	56.0	51.5	51.8	51.8
80°	679.1	205.0	138.7	88.0	59.8	52.7	51.0	49.8	44.9	45.6	45.6
82.5°	465.3	121.9	100.6	70.8	51.5	44.9	44.6	42.7	37.5	37.8	38.5
85°	254.2	80.2	66.9	52.4	40.4	36.5	35.9	34.9	30.1	30.1	30.4
87.5°	46.9	43.0	39.5	34.6	27.2	26.2	25.3	26.2	22.6	22.0	22.0
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°	1520.5	1520.5	1520.5	1520.5	1520.5	1520.5	1520.5	1520.5	1520.5	1520.5	1520.5
2.5°	1324.9	1302.5	1287.1	1273.5	1240.8	1243.1	1247.6	1254.0	1233.7	1244.3	1257.6
5°	1067.1	1048.7	1034.8	1013.1	967.5	951.3	941.0	936.5	906.1	912.6	926.8
7.5°	786.8	786.4	781.6	757.4	702.4	669.1	647.1	640.3	621.5	628.6	650.3
10°	553.9	559.8	557.5	535.8	486.7	462.8	457.9	471.5	471.8	485.7	522.9
12.5°	400.4	397.1	394.2	376.4	339.5	335.6	346.7	365.4	369.9	384.8	423.6
15°	298.8	291.0	289.4	275.5	251.2	254.8	262.9	272.6	272.9	283.3	315.3
17.5°	224.1	224.1	226.7	217.7	200.2	198.6	194.4	191.8	187.9	192.1	209.5
20°	174.0	182.1	188.5	183.3	167.6	159.8	151.7	146.5	143.6	143.9	149.0
22.5°	149.0	155.6	164.0	161.3	148.1	138.1	132.9	129.3	127.1	127.1	130.0
25°	136.5	140.7	148.4	147.1	135.8	127.8	123.6	120.0	117.4	117.0	120.0
27.5°	126.4	129.0	134.2	133.6	121.9	116.7	114.2	111.9	110.3	110.0	112.8
30°	117.4	118.7	121.2	120.3	111.6	106.4	105.5	104.4	103.5	103.8	108.0
32.5°	109.3	110.3	111.9	110.6	102.2	97.7	96.1	94.7	93.8	94.7	99.6
35°	100.2	103.1	105.1	104.4	95.4	89.9	86.3	83.1	81.8	82.8	88.3
37.5°	92.5	97.4	99.9	99.2	89.9	83.5	78.9	78.3	78.3	79.6	85.0
40°	89.6	93.1	95.4	94.4	85.0	78.6	76.0	75.0	75.4	76.6	82.4
42.5°	87.0	90.2	90.8	88.9	79.6	75.4	73.8	72.4	73.0	74.7	80.5
45°	84.7	87.4	87.0	84.1	75.0	72.1	72.1	71.1	71.5	72.7	78.9
47.5°	83.1	84.4	83.8	80.8	71.8	69.6	70.5	70.5	71.1	72.1	78.3
50°	80.5	81.5	80.8	78.3	69.3	67.3	68.2	69.6	70.2	71.1	76.6
52.5°	77.9	78.6	78.3	75.7	66.6	65.4	65.4	66.6	67.9	69.3	74.1
55°	75.4	76.0	76.3	74.4	64.7	63.4	63.0	63.0	64.3	66.3	71.5
57.5°	73.4	73.4	74.1	72.7	62.7	61.1	59.5	59.8	61.5	63.0	68.2
60°	71.1	71.5	72.4	71.1	60.1	57.6	56.3	57.9	58.5	60.1	65.7
62.5°	69.3	69.3	69.9	68.8	57.9	55.3	54.3	56.0	56.0	57.6	63.0
65°	67.6	67.3	67.3	66.9	55.6	53.0	52.4	53.0	53.4	54.9	60.5
67.5°	66.3	64.7	64.7	65.4	53.4	50.7	50.4	50.4	50.7	52.7	57.6
70°	63.4	62.1	61.8	64.0	51.0	47.9	47.9	47.3	47.9	48.8	54.0
72.5°	60.1	59.2	58.8	62.1	48.8	44.6	44.0	43.7	44.0	44.9	49.8
75°	56.0	55.3	56.0	60.8	46.5	41.0	40.1	39.8	39.8	40.1	45.3
77.5°	51.0	50.4	55.3	56.6	45.3	36.8	35.9	35.3	34.6	34.6	40.4
80°	45.3	44.9	53.4	47.9	43.4	32.3	30.7	29.8	29.2	28.7	34.6
82.5°	39.5	38.8	45.6	37.5	35.9	26.5	24.2	22.3	21.4	21.4	26.5
85°	32.3	32.0	35.9	27.5	24.9	19.4	16.2	14.5	13.3	13.3	17.2
87.5°	23.6	22.9	22.3	16.5	12.6	8.7	6.1	5.8	5.2	4.8	7.2
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):**

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1520.5	1520.5	1520.5	1520.5	1520.5	1520.5	1520.5	1520.5
2.5°	1277.4	1304.2	1355.0	1396.6	1452.3	1496.9	1547.7	1569.7
5°	953.0	995.3	1073.0	1139.3	1231.1	1316.1	1413.2	1466.2
7.5°	683.6	746.3	805.2	888.0	1002.8	1117.0	1242.4	1312.5
10°	565.6	623.2	673.6	732.4	821.0	949.4	1099.2	1178.4
12.5°	468.6	530.7	584.0	647.1	721.5	837.6	1008.3	1100.5
15°	359.3	426.9	490.9	566.9	658.1	790.6	981.1	1083.9
17.5°	246.1	318.5	397.4	490.2	600.2	770.9	1007.0	1133.7
20°	167.2	220.2	306.0	415.8	548.1	761.6	1063.9	1236.2
22.5°	137.5	161.3	225.8	346.1	505.4	771.9	1156.4	1371.2
25°	126.1	139.0	175.6	284.6	472.8	799.4	1281.6	1523.5
27.5°	119.0	130.0	154.0	240.6	442.7	836.9	1433.9	1709.7
30°	114.8	125.1	145.2	218.0	415.2	869.2	1564.8	1850.0
32.5°	105.5	113.1	129.7	205.0	395.5	895.4	1680.3	1981.4
35°	94.1	103.5	117.0	196.6	394.9	907.8	1788.9	2126.5
37.5°	89.9	98.9	108.9	192.1	398.7	918.1	1921.8	2291.1
40°	87.4	95.4	103.5	191.4	401.9	926.2	2051.8	2462.5
42.5°	85.0	93.1	102.5	186.9	400.7	937.1	2166.9	2609.6
45°	84.4	92.5	104.8	180.1	400.4	954.3	2258.5	2727.4
47.5°	83.8	96.1	104.1	172.7	399.1	990.5	2361.6	2836.9
50°	83.1	102.5	99.6	162.3	389.3	1052.3	2500.4	2962.5
52.5°	82.8	103.5	94.7	148.1	371.8	1143.8	2703.5	3137.1
55°	81.5	98.3	86.3	129.3	346.7	1242.4	2921.0	3342.4
57.5°	78.6	87.7	81.5	110.9	310.5	1311.3	3081.8	3501.3
60°	85.7	75.4	78.3	101.6	267.1	1323.6	3088.9	3545.9
62.5°	81.8	68.5	75.0	98.3	236.7	1243.4	2947.6	3492.5
65°	65.4	65.0	72.1	101.6	232.2	1063.9	2709.0	3334.3
67.5°	59.5	62.4	69.3	105.5	235.1	838.2	2357.8	2965.0
70°	55.6	59.2	65.4	108.9	240.3	660.3	1898.2	2411.4
72.5°	51.8	54.6	61.5	112.5	236.7	521.0	1519.2	1857.5
75°	46.9	49.5	56.0	103.1	203.1	382.9	1207.2	1319.1
77.5°	41.4	43.7	49.2	81.5	152.6	266.5	904.2	950.7
80°	35.6	36.5	40.7	59.5	99.6	159.4	688.1	758.3
82.5°	28.1	28.4	31.0	43.7	62.1	101.9	477.3	544.9
85°	18.1	18.7	20.0	30.7	41.7	65.4	243.9	279.4
87.5°	6.1	7.2	7.2	14.8	20.4	36.2	74.7	54.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)