

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: P963107

Luminaire Tested: **NAV-SB2D-827-U-SLR-HSS**

Issue Date: 1/21/2025

Test Information

Test Method: LM-79-08
Report Number: P963107
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2411-289-9)
Test Lab: INNOVATION CENTER
Issue Date: 1/21/2025
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-SB2D-827-U-SLR-HSS
Description: NAVION ROADWAY AND AREA HIGH DENSITY LED LUMINAIRE
(2) 80 CRI, 2700K, 900mA LIGHTSQUARES WITH 26 LEDS EACH AND SPILL LIGHT
ELIMINATOR RIGHT OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: -

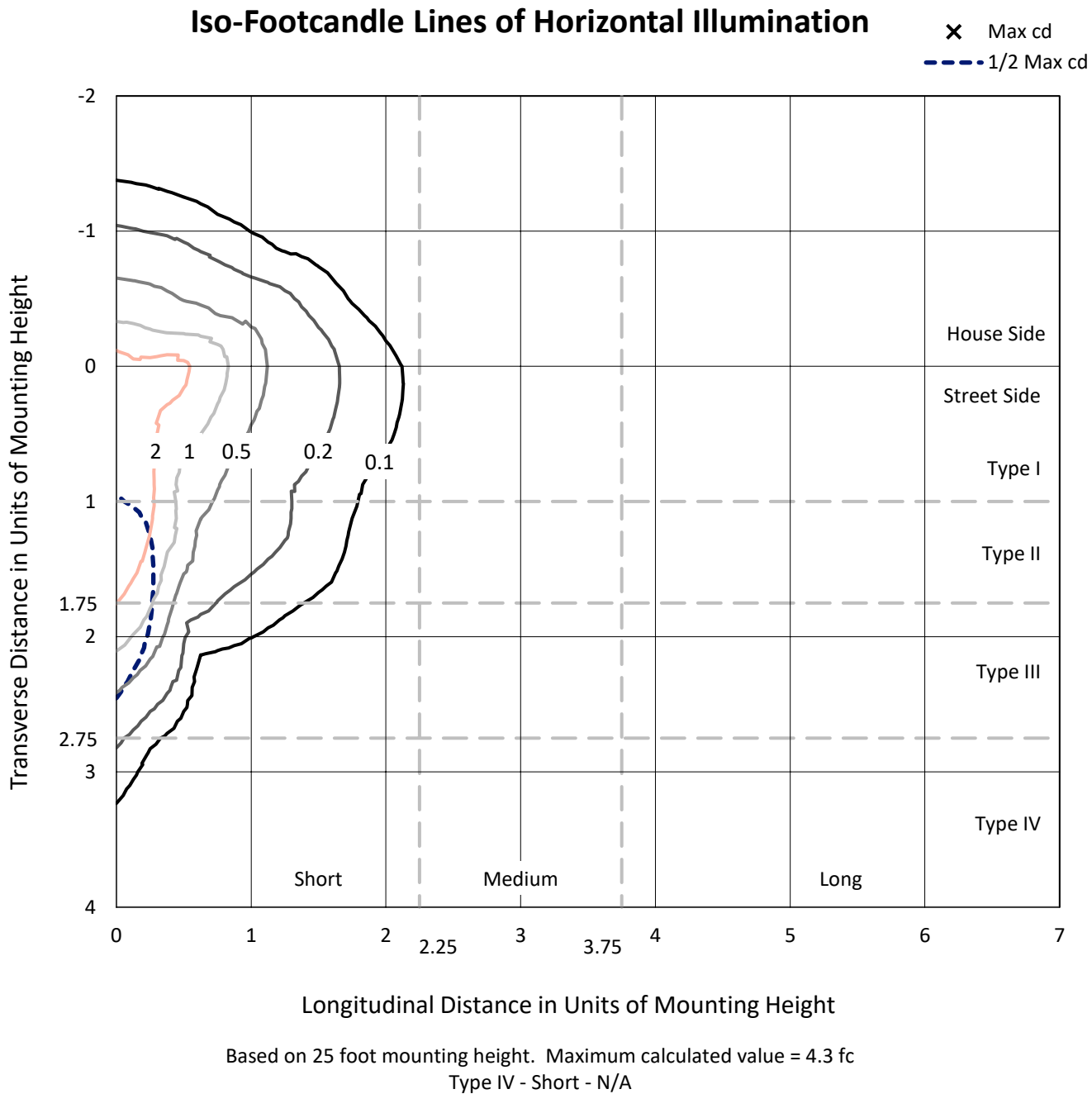
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13842.6 lumens
Efficiency: N/A
Efficacy: 93.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G3

Input Watts (W): 147.6
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: 24 FT

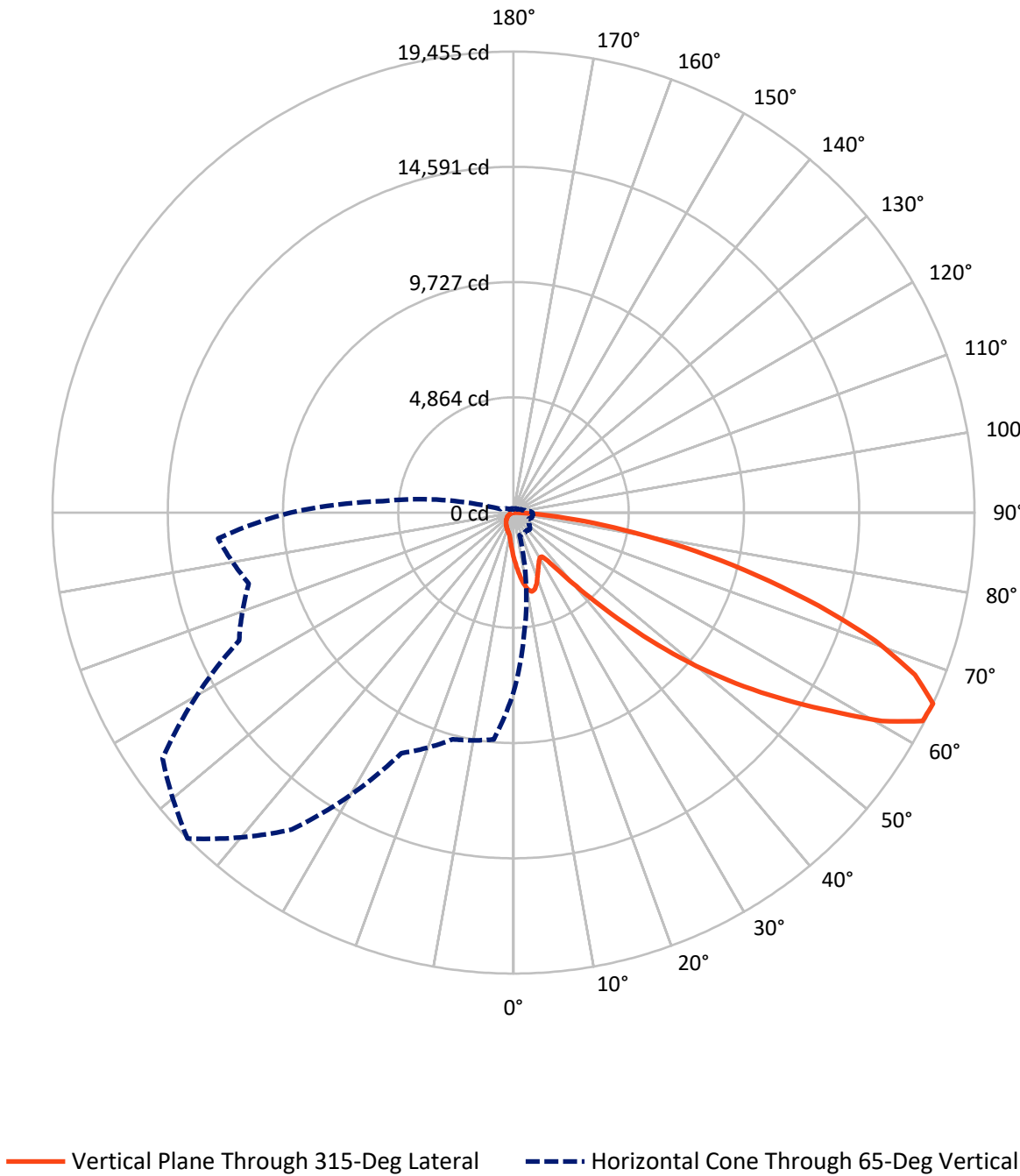


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Luminous Intensity Polar Plot



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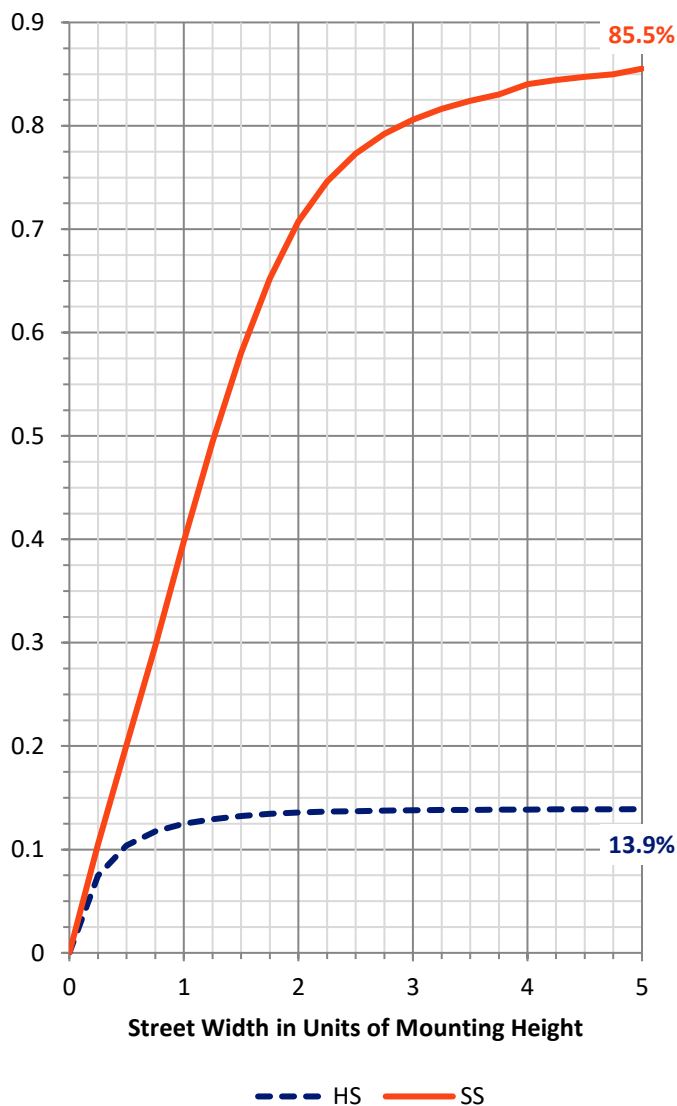
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1938.6	0.0	1938.6
	% Fixture	14.0	0.0	14.0
Street Side	Lumens	11904.1	0.0	11904.1
	% Fixture	86.0	0.0	86.0
Total	Lumens	13842.6	0.0	13842.6
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	188.7	1.4
10°-20°	565.7	4.1
20°-30°	833.4	6.0
30°-40°	1070.7	7.7
40°-50°	1731.6	12.5
50°-60°	3036.5	21.9
60°-70°	3799.6	27.4
70°-80°	2220.3	16.0
80°-90°	396.1	2.9
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°	13842.6	100.0
0°-180°	13842.6	100.0

Coefficient of Utilization



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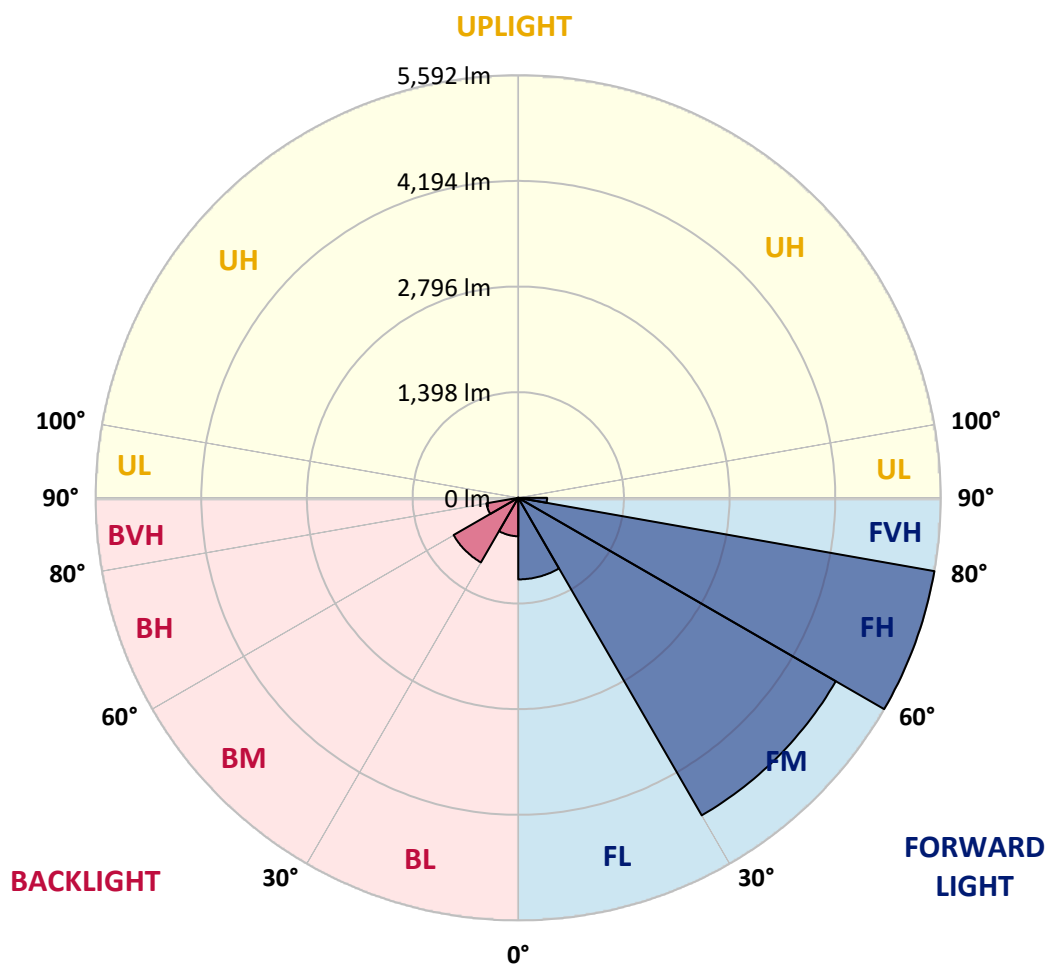
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1079.7	7.8			
FM	(30°-60°)	4851.7	35.0			
FH	(60°-80°)	5591.8	40.4			G3/7500
FVH	(80°-90°)	380.9	2.8			G3/500
BL	(0°-30°)	508.1	3.7	B2/1000		
BM	(30°-60°)	987.2	7.1	B1/1000		
BH	(60°-80°)	428.0	3.1	B1/500		G1/500
BVH	(80°-90°)	15.2	0.1			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1916.7	1916.7	1916.7	1916.7	1916.7	1916.7	1916.7	1916.7	1916.7	1916.7	1916.7
2.5°	2165.6	2128.4	2106.6	2052.2	1997.8	1954.0	1894.8	1855.8	1809.0	1764.2	1724.2
5°	2413.6	2353.5	2281.0	2181.8	2091.3	1998.7	1909.2	1820.4	1727.0	1641.1	1588.7
7.5°	2623.4	2536.6	2408.9	2277.2	2161.8	2050.3	1945.3	1828.1	1714.6	1580.1	1508.6
10°	2783.6	2673.0	2505.1	2332.5	2200.0	2087.4	1985.4	1886.2	1771.8	1609.7	1520.1
12.5°	2880.9	2762.6	2563.3	2361.2	2209.5	2083.6	2004.5	1960.6	1915.8	1754.7	1649.7
15°	2952.4	2824.6	2604.3	2381.2	2187.6	2033.1	1975.0	2018.8	2070.3	1967.3	1846.2
17.5°	3026.7	2892.3	2657.7	2389.8	2128.4	1934.9	1910.1	2023.6	2142.8	2138.0	2017.8
20°	3097.3	2963.8	2704.5	2384.0	2033.1	1815.7	1837.6	1982.6	2120.8	2179.0	2114.2
22.5°	3178.4	3037.3	2749.3	2362.1	1909.2	1704.1	1772.7	1917.7	2038.8	2107.5	2087.4
25°	3277.5	3129.7	2812.2	2329.7	1775.6	1611.6	1706.9	1842.3	1940.6	1988.3	1987.4
27.5°	3384.3	3240.3	2896.1	2312.5	1667.9	1545.8	1632.6	1752.7	1840.5	1873.8	1873.8
30°	3516.9	3369.1	2995.3	2293.4	1597.3	1507.7	1555.3	1648.8	1734.6	1768.0	1768.0
32.5°	3661.9	3512.2	3090.7	2247.6	1554.4	1479.1	1480.0	1539.1	1617.3	1657.4	1663.1
35°	3843.0	3683.8	3192.7	2147.6	1520.1	1445.7	1406.6	1435.2	1500.0	1547.7	1560.2
37.5°	4101.5	3908.8	3317.6	2004.5	1469.5	1394.2	1329.3	1336.0	1385.6	1438.1	1457.1
40°	4458.1	4211.1	3464.5	1855.8	1397.1	1321.7	1244.5	1241.6	1277.9	1329.3	1350.3
42.5°	4940.7	4610.8	3640.9	1713.6	1327.5	1234.0	1154.9	1150.0	1178.6	1223.4	1245.4
45°	5577.6	5121.8	3857.4	1591.6	1273.0	1148.1	1070.0	1068.0	1091.9	1131.0	1153.8
47.5°	6393.0	5832.2	4073.9	1508.6	1244.5	1080.5	1000.3	1004.2	1025.1	1060.5	1076.7
50°	7448.7	6758.2	4139.7	1466.7	1244.5	1044.2	938.4	957.5	974.6	1001.3	1010.9
52.5°	8714.1	7647.0	3922.2	1428.5	1252.1	1049.0	885.9	926.9	939.3	962.2	966.0
55°	9887.0	8082.8	3371.9	1376.1	1254.0	1078.5	841.1	902.1	925.0	933.6	932.6
57.5°	10568.0	7933.1	2726.4	1287.4	1246.4	1098.6	812.5	871.6	915.4	921.2	912.6
60°	10438.2	7407.7	2007.4	1219.6	1190.1	1090.9	803.9	824.9	894.5	903.0	891.6
62.5°	9438.8	6526.5	1393.2	1167.3	1066.1	1057.6	801.0	751.4	848.7	869.7	853.5
65°	7586.9	5138.0	984.1	1005.1	934.5	985.1	785.8	675.2	793.5	822.0	797.2
67.5°	5504.2	3476.9	710.4	814.4	846.9	867.8	751.4	619.8	730.5	768.6	736.2
70°	3532.2	1877.7	498.8	537.8	713.3	737.2	692.3	570.3	666.6	710.4	675.2
72.5°	2510.8	1109.0	358.5	376.7	573.1	614.1	609.4	515.0	592.1	645.5	603.6
75°	1732.8	611.3	242.2	269.0	415.7	498.8	470.2	442.5	501.6	556.0	515.0
77.5°	1086.2	273.7	144.9	186.9	272.8	392.0	322.4	342.3	390.9	441.6	398.6
80°	604.5	105.9	81.1	123.9	148.7	285.2	178.4	220.3	288.0	324.2	289.9
82.5°	131.6	13.3	36.3	53.4	58.2	165.9	94.4	127.8	181.2	178.4	154.5
85°	0.0	0.0	6.7	7.6	3.8	71.5	34.3	41.9	59.1	55.4	41.9
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	1916.7	1916.7	1916.7	1916.7	1916.7	1916.7	1916.7	1916.7	1916.7	1916.7	1916.7
2.5°	1716.5	1669.7	1635.5	1618.3	1604.0	1617.3	1624.9	1624.9	1657.4	1676.5	1684.1
5°	1555.3	1471.4	1407.5	1364.6	1338.9	1347.5	1357.0	1367.5	1408.5	1436.1	1454.3
7.5°	1443.8	1315.1	1217.8	1157.6	1126.2	1131.0	1137.6	1146.3	1186.3	1213.9	1237.8
10°	1422.8	1237.8	1100.4	1021.3	983.2	976.5	972.7	969.9	993.6	1014.6	1033.7
12.5°	1508.6	1241.6	1049.9	953.7	906.9	886.8	864.0	845.8	849.6	863.0	886.8
15°	1662.1	1290.3	1033.7	918.3	860.2	826.8	800.1	778.2	773.4	778.2	782.0
17.5°	1837.6	1356.1	1031.8	887.9	815.4	781.0	759.1	739.0	732.4	733.3	738.1
20°	1954.0	1408.5	1026.1	853.5	772.4	741.9	722.8	702.8	696.2	698.0	698.9
22.5°	1965.4	1436.1	1017.5	815.4	729.5	703.8	684.7	666.6	665.6	665.6	671.4
25°	1903.4	1436.1	999.4	781.0	688.5	665.6	648.4	626.5	630.4	632.2	639.9
27.5°	1807.1	1401.8	965.0	753.4	653.2	629.3	612.2	592.1	597.0	599.8	608.4
30°	1711.7	1357.9	924.0	721.9	619.8	592.1	579.8	562.6	564.6	568.4	577.9
32.5°	1623.1	1311.2	875.5	696.2	586.5	558.8	549.3	530.2	533.1	536.9	547.3
35°	1535.3	1259.7	818.2	665.6	556.0	528.3	520.7	498.8	500.6	506.4	517.8
37.5°	1440.9	1205.4	771.5	635.1	526.4	497.7	490.2	467.3	469.1	475.8	489.2
40°	1341.7	1152.0	725.7	602.7	495.0	466.3	459.6	434.8	436.8	444.3	458.7
42.5°	1241.6	1093.8	690.4	560.7	462.5	432.0	425.3	402.4	405.3	413.9	428.1
45°	1149.1	1024.2	667.5	514.0	432.0	397.7	390.9	370.0	375.8	385.3	399.5
47.5°	1070.0	952.6	657.9	474.9	399.5	362.3	356.7	339.5	349.0	359.5	370.9
50°	1002.2	884.0	645.5	434.8	369.0	331.9	326.2	314.7	327.1	337.5	348.1
52.5°	953.7	805.8	618.9	398.6	342.3	306.1	304.2	298.5	310.0	319.5	329.0
55°	911.6	724.8	575.9	367.2	318.5	284.1	286.1	283.2	292.7	300.4	308.9
57.5°	873.5	654.2	521.6	342.3	292.7	265.1	270.8	267.0	271.8	276.5	287.0
60°	827.7	582.6	456.7	314.7	262.2	246.0	252.7	242.2	241.3	243.1	246.0
62.5°	760.0	486.4	389.1	280.3	235.5	225.1	228.0	207.9	192.6	192.6	195.5
65°	665.6	390.9	326.2	242.2	205.0	196.5	194.5	165.9	144.9	143.1	151.6
67.5°	556.0	321.3	270.8	204.1	170.7	165.0	166.9	145.9	124.9	123.0	132.5
70°	452.9	266.1	218.4	163.1	131.6	137.4	145.9	124.9	104.9	102.0	110.6
72.5°	368.1	211.7	170.7	124.9	97.3	113.5	123.9	102.0	82.9	81.1	88.7
75°	284.1	155.4	122.1	84.9	70.5	87.7	97.3	74.4	59.1	56.3	62.9
77.5°	189.7	96.4	68.7	53.4	41.9	60.1	64.9	39.1	34.3	33.4	38.1
80°	115.4	44.8	29.5	25.7	14.3	21.9	25.7	16.2	18.1	19.1	22.9
82.5°	58.2	12.4	4.8	0.9	0.0	0.0	7.6	3.8	7.6	9.5	14.3
85°	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	4.8	8.6
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	1916.7	1916.7	1916.7	1916.7	1916.7	1916.7	1916.7	1916.7	1916.7	1916.7	1916.7
2.5°	1737.5	1777.6	1815.7	1876.7	1939.6	2001.6	2064.6	2125.6	2147.6	2163.8	2200.0
5°	1537.2	1612.5	1700.3	1821.4	1951.1	2084.6	2220.0	2344.0	2400.2	2438.4	2524.2
7.5°	1330.2	1428.5	1554.4	1736.6	1939.6	2152.3	2365.0	2560.4	2651.1	2724.4	2855.1
10°	1125.2	1232.0	1391.3	1599.2	1873.8	2179.0	2472.7	2741.7	2858.9	2951.4	3128.8
12.5°	945.0	1045.2	1212.1	1441.9	1770.9	2158.0	2534.7	2858.0	2996.3	3100.2	3294.8
15°	818.2	888.8	1036.6	1284.5	1648.8	2090.3	2538.5	2913.3	3065.0	3173.6	3342.4
17.5°	747.6	771.5	867.8	1124.3	1513.4	2001.6	2503.3	2932.3	3094.5	3195.5	3312.8
20°	709.5	713.3	740.0	916.5	1339.8	1918.7	2469.8	2951.4	3122.1	3207.0	3242.3
22.5°	679.0	679.0	685.6	749.6	1115.7	1819.5	2459.4	2984.8	3160.3	3212.8	3140.3
25°	651.3	651.3	653.2	670.3	884.0	1667.9	2452.7	3036.3	3212.8	3227.0	3027.7
27.5°	622.7	623.7	623.7	633.2	712.4	1461.9	2424.1	3103.1	3275.7	3246.1	2919.9
30°	594.1	596.0	596.0	602.7	630.4	1220.7	2367.9	3183.1	3357.7	3270.9	2813.1
32.5°	565.5	567.4	567.4	573.1	593.2	974.6	2297.2	3256.6	3440.6	3281.3	2714.0
35°	536.0	538.7	536.9	544.5	565.5	775.3	2207.6	3330.0	3530.3	3314.7	2665.3
37.5°	506.4	508.3	507.3	515.0	538.7	669.4	2103.7	3385.4	3652.4	3389.2	2723.5
40°	476.8	475.8	475.8	484.4	510.1	638.9	1973.0	3473.0	3827.8	3519.7	2977.2
42.5°	446.3	446.3	444.3	453.9	485.3	616.0	1848.1	3630.4	4083.4	3727.7	3427.3
45°	418.6	417.7	413.9	422.4	461.6	575.9	1804.2	3924.1	4461.0	4064.3	3971.8
47.5°	392.0	390.9	381.4	389.1	433.0	539.8	1968.2	4404.7	4984.6	4559.2	4482.0
50°	368.1	369.0	351.0	357.6	404.4	512.1	2324.0	5028.4	5679.7	5225.8	4965.5
52.5°	346.1	346.1	322.4	326.2	369.0	487.3	2662.4	5704.5	6597.1	6155.5	5529.1
55°	324.2	322.4	295.6	297.6	333.7	452.0	2713.1	6364.4	7848.2	7554.6	6299.5
57.5°	299.4	295.6	270.8	270.8	301.3	426.3	2351.7	6871.7	9400.7	9610.5	7410.5
60°	269.0	266.1	249.9	245.1	275.6	449.2	1659.3	6930.8	10402.0	12344.5	9538.0
62.5°	229.8	233.6	225.1	218.4	250.8	466.3	983.2	6455.0	10159.8	13214.2	12086.1
65°	181.2	196.5	194.5	189.7	275.6	392.9	580.8	5541.5	9416.9	12512.4	11566.4
67.5°	154.5	165.0	162.2	162.2	288.9	298.5	365.2	4329.4	8394.6	11679.9	10331.4
70°	131.6	142.1	131.6	131.6	218.4	181.2	252.7	3022.9	7291.3	10758.6	9520.8
72.5°	108.8	119.2	107.7	100.1	174.6	135.4	185.0	1889.1	6244.3	9799.3	8965.9
75°	82.9	95.3	86.8	77.3	115.4	101.1	140.2	1097.6	5173.4	8384.2	8175.3
77.5°	52.5	68.7	64.9	54.3	84.9	73.4	101.1	653.2	3991.9	6551.3	7031.9
80°	32.4	35.3	36.3	34.3	48.6	49.6	68.7	371.9	2732.1	4565.9	5493.8
82.5°	21.0	21.0	16.2	18.1	23.9	28.6	39.1	140.2	1605.9	2779.8	3824.0
85°	15.3	13.3	8.6	8.6	11.5	14.3	15.3	42.9	651.3	1097.6	1495.3
87.5°	7.6	6.7	2.9	3.8	5.7	4.8	3.8	1.9	164.0	351.0	246.0
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):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1916.7	1916.7	1916.7	1916.7	1916.7	1916.7	1916.7	1916.7
2.5°	2219.0	2248.6	2250.5	2250.5	2224.8	2223.8	2171.4	2165.6
5°	2612.9	2632.0	2636.7	2627.2	2575.7	2537.6	2435.5	2413.6
7.5°	2973.3	3011.6	3011.6	2988.6	2904.7	2826.5	2678.7	2623.4
10°	3261.3	3305.2	3295.7	3248.9	3143.1	3035.3	2856.1	2783.6
12.5°	3401.6	3446.4	3421.6	3368.2	3265.1	3151.7	2962.9	2880.9
15°	3398.7	3386.3	3360.6	3353.9	3304.3	3218.4	3042.0	2952.4
17.5°	3277.5	3172.7	3152.6	3219.4	3282.4	3261.3	3110.7	3026.7
20°	3085.9	2902.8	2884.7	3012.5	3191.7	3283.3	3174.5	3097.3
22.5°	2883.7	2686.3	2644.4	2785.5	3055.4	3289.9	3255.6	3178.4
25°	2692.1	2493.7	2451.7	2583.3	2903.7	3278.6	3343.3	3277.5
27.5°	2531.9	2340.2	2301.0	2432.6	2757.9	3246.1	3431.1	3384.3
30°	2407.8	2230.5	2201.9	2328.7	2632.0	3206.0	3542.7	3516.9
32.5°	2335.4	2205.7	2216.2	2320.1	2564.2	3162.2	3649.5	3661.9
35°	2406.9	2412.6	2504.2	2547.1	2627.2	3155.5	3794.4	3843.0
37.5°	2762.6	2960.9	3150.7	3115.5	2935.2	3232.7	4010.9	4101.5
40°	3368.2	3775.4	4083.4	3948.9	3494.9	3469.2	4322.7	4458.1
42.5°	4108.2	4798.5	5305.9	4945.4	4216.8	3883.1	4768.1	4940.7
45°	4889.1	6060.2	6859.3	6109.8	4986.4	4463.0	5442.2	5577.6
47.5°	5712.1	7593.6	8627.3	7401.0	5699.7	5122.8	6361.6	6393.0
50°	6612.4	9274.8	10429.7	8691.2	6388.2	5879.0	7484.9	7448.7
52.5°	7469.7	11003.7	12193.8	9987.2	6992.9	6817.4	8788.5	8714.1
55°	8287.8	12731.6	13968.5	11232.6	7563.1	8057.1	10337.1	9887.0
57.5°	9236.7	14285.1	15797.5	12483.8	8360.3	9666.8	12069.0	10568.0
60°	10639.5	16050.3	17866.0	14198.3	9876.6	11358.4	12689.7	10438.2
62.5°	12430.4	17673.3	19369.7	15878.6	11399.4	11677.0	11775.2	9438.8
65°	12778.4	18084.3	19454.6	16327.7	11203.0	9905.2	9613.4	7586.9
67.5°	11855.4	17341.5	18268.4	15491.4	9909.9	7654.6	7214.1	5504.2
70°	10819.7	15925.3	16200.9	14069.6	8716.0	5630.1	4872.0	3532.2
72.5°	9758.3	14036.2	13465.9	12218.6	7660.3	4099.6	3514.1	2510.8
75°	8497.7	11552.1	10607.0	10152.1	6342.5	3217.5	2542.3	1732.8
77.5°	6805.0	8131.4	7878.8	7869.2	4766.1	2350.6	1696.5	1086.2
80°	4800.5	5277.3	5148.6	5926.7	3197.5	1705.1	1021.3	604.5
82.5°	2324.0	2918.1	2995.3	3529.3	1555.3	1003.2	235.5	131.6
85°	909.8	1407.5	1187.3	1339.8	436.8	279.4	5.7	0.0
87.5°	102.0	163.1	149.8	118.3	53.4	11.5	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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