

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: P966176

Luminaire Tested: **NAV-SB4B-740-U-SLR-HSS**

Issue Date: 1/21/2025

Test Information

Test Method: LM-79-08
Report Number: P966176
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-SB4B-740-U-SLR-HSS
Description: NAVION ROADWAY AND AREA HIGH DENSITY LED LUMINAIRE
(4) 70 CRI, 4000K, 450mA LIGHTSQUARES WITH 26 LEDS EACH AND SPILL LIGHT
ELIMINATOR RIGHT OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: -

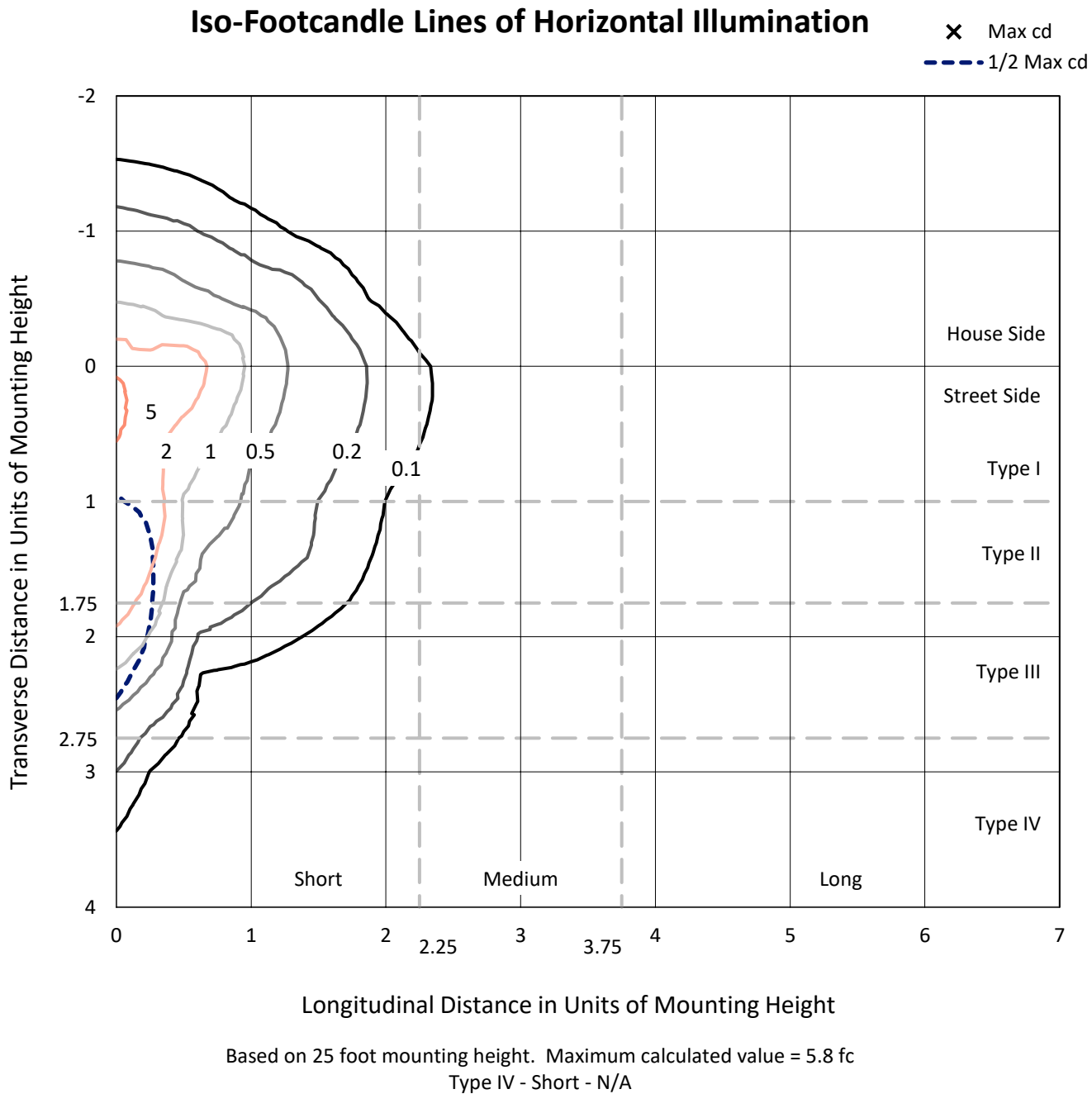
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18677.5 lumens
Efficiency: N/A
Efficacy: 127.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G4

Input Watts (W): 147
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

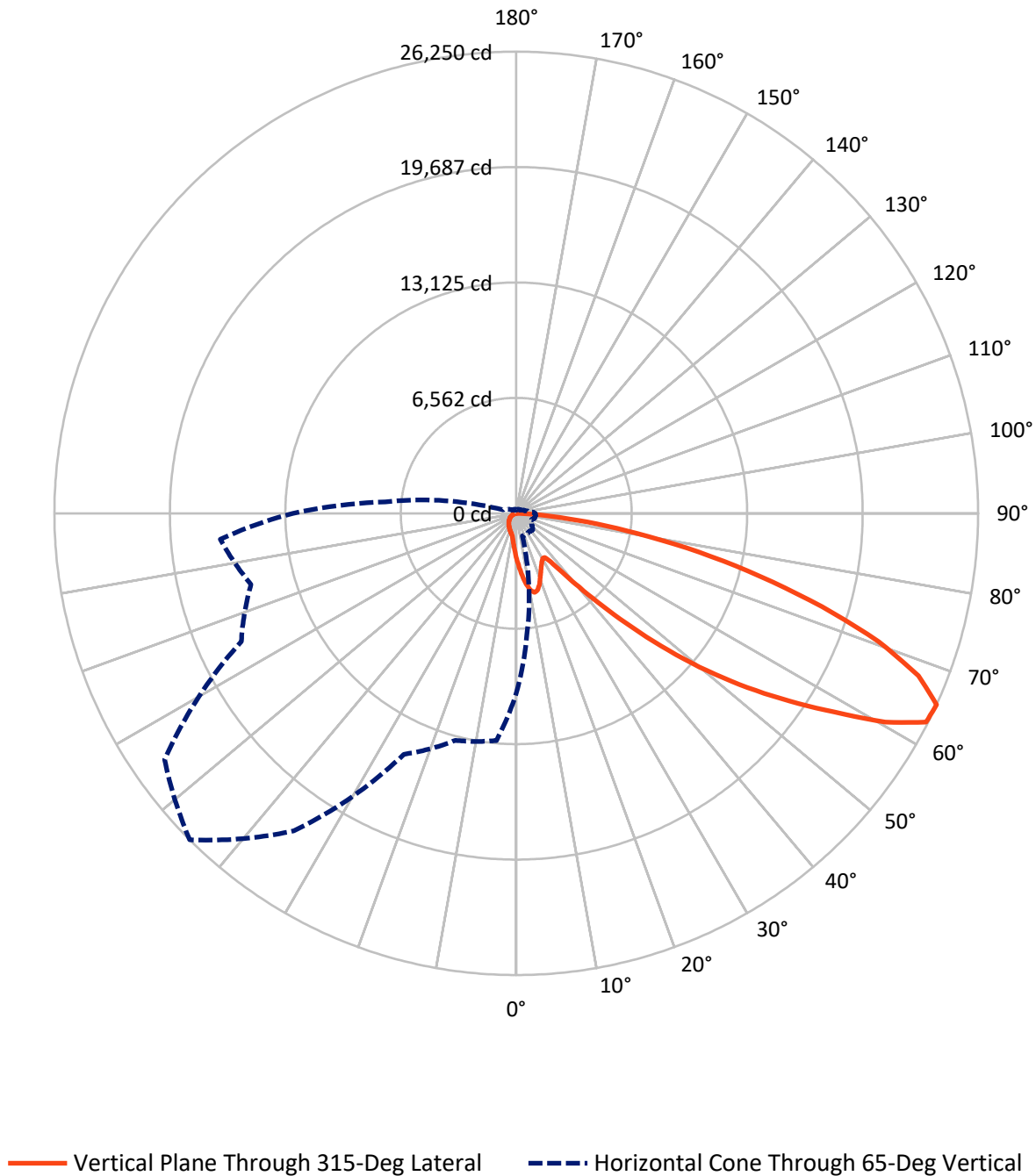


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Luminous Intensity Polar Plot



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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2615.7	0.0	2615.7
	% Fixture	14.0	0.0	14.0
Street Side	Lumens	16061.9	0.0	16061.9
	% Fixture	86.0	0.0	86.0
Total	Lumens	18677.5	0.0	18677.5
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	254.6	1.4
10°-20°	763.3	4.1
20°-30°	1124.5	6.0
30°-40°	1444.6	7.7
40°-50°	2336.4	12.5
50°-60°	4097.2	21.9
60°-70°	5126.7	27.4
70°-80°	2995.8	16.0
80°-90°	534.5	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°	18677.5	100.0
0°-180°	18677.5	100.0

Coefficient of Utilization



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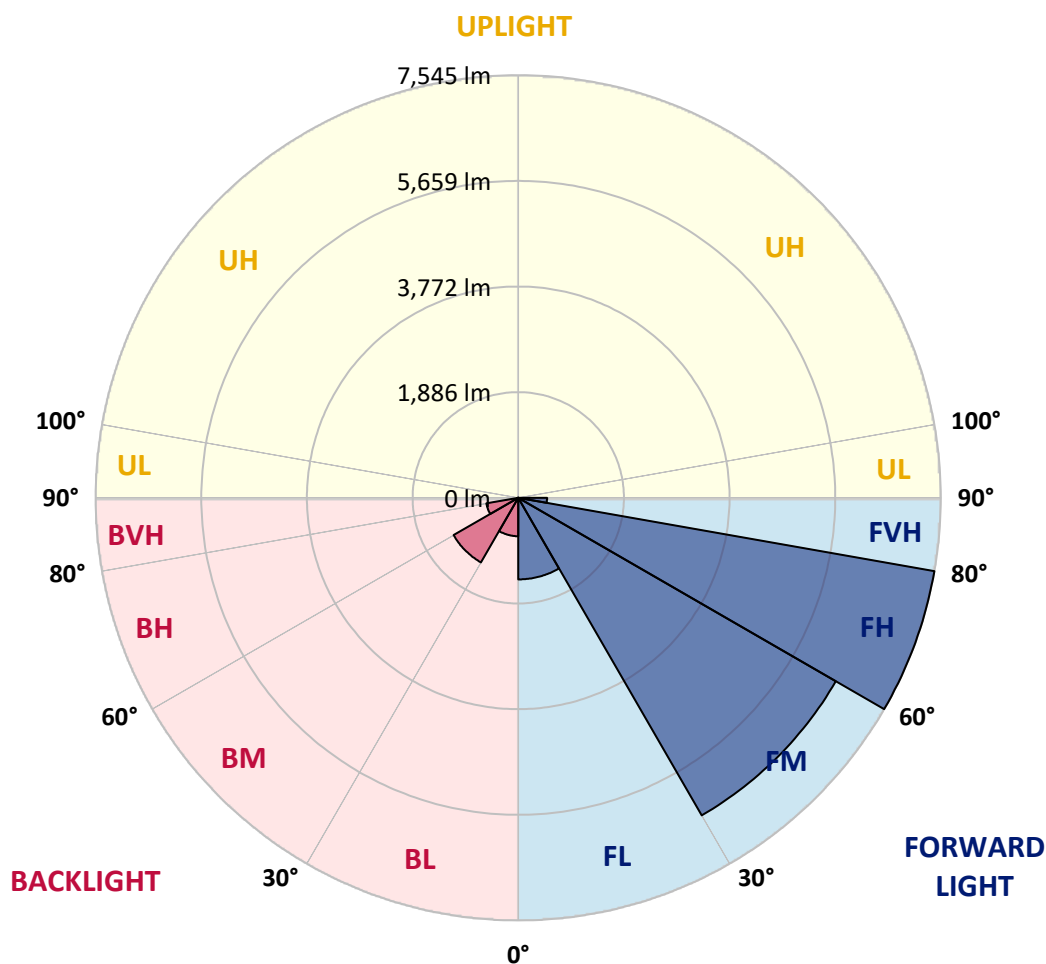
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1456.8	7.8			
FM	(30°-60°)	6546.3	35.0			
FH	(60°-80°)	7544.9	40.4			G4/12000
FVH	(80°-90°)	514.0	2.8			G4/750
BL	(0°-30°)	685.6	3.7	B2/1000		
BM	(30°-60°)	1332.0	7.1	B2/2500		
BH	(60°-80°)	577.6	3.1	B2/1000		G2/1000
BVH	(80°-90°)	20.5	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-G4

Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	2586.3	2586.3	2586.3	2586.3	2586.3	2586.3	2586.3	2586.3	2586.3	2586.3	2586.3
2.5°	2922.1	2871.8	2842.3	2768.9	2695.6	2636.4	2556.7	2503.9	2440.8	2380.4	2326.3
5°	3256.6	3175.6	3077.8	2943.9	2821.7	2696.9	2575.9	2456.3	2330.2	2214.4	2143.6
7.5°	3539.6	3422.6	3250.2	3072.6	2916.9	2766.4	2624.8	2466.6	2313.4	2132.0	2035.5
10°	3755.8	3606.6	3380.1	3147.3	2968.4	2816.6	2678.8	2545.1	2390.7	2172.0	2051.0
12.5°	3887.1	3727.5	3458.7	3185.8	2981.2	2811.4	2704.7	2645.4	2584.9	2367.5	2226.0
15°	3983.6	3811.2	3513.9	3212.9	2951.7	2743.2	2664.7	2723.9	2793.4	2654.4	2491.1
17.5°	4083.9	3902.5	3586.0	3224.4	2871.8	2610.7	2577.3	2730.4	2891.2	2884.8	2722.6
20°	4179.1	3999.0	3649.0	3216.8	2743.2	2449.9	2479.5	2675.0	2861.6	2940.1	2852.6
22.5°	4288.5	4098.1	3709.5	3187.1	2575.9	2299.3	2391.9	2587.5	2750.9	2843.6	2816.6
25°	4422.4	4222.9	3794.4	3143.4	2395.8	2174.5	2303.2	2485.9	2618.4	2682.7	2681.5
27.5°	4566.5	4372.1	3907.7	3120.2	2250.4	2085.8	2202.8	2365.0	2483.3	2528.4	2528.4
30°	4745.3	4545.9	4041.5	3094.5	2155.2	2034.2	2098.6	2224.7	2340.5	2385.5	2385.5
32.5°	4940.9	4738.9	4170.1	3032.8	2097.3	1995.7	1996.9	2076.8	2182.2	2236.2	2244.0
35°	5185.4	4970.4	4307.9	2897.6	2051.0	1950.6	1897.9	1936.4	2024.0	2088.3	2105.0
37.5°	5534.1	5274.1	4476.4	2704.7	1982.8	1881.2	1793.6	1802.7	1869.6	1940.3	1966.1
40°	6015.3	5682.0	4674.5	2503.9	1885.0	1783.4	1679.2	1675.3	1724.2	1793.6	1821.9
42.5°	6666.3	6221.1	4912.6	2312.2	1791.1	1665.0	1558.2	1551.7	1590.4	1650.9	1680.4
45°	7525.9	6910.8	5204.6	2147.5	1717.7	1549.2	1443.7	1441.0	1473.2	1526.0	1556.9
47.5°	8626.0	7869.3	5496.8	2035.5	1679.2	1457.9	1349.7	1354.8	1383.2	1430.8	1452.6
50°	10050.3	9118.7	5585.5	1979.0	1679.2	1409.0	1266.1	1291.8	1315.0	1351.1	1363.9
52.5°	11757.8	10318.0	5292.2	1927.4	1689.4	1415.3	1195.4	1250.7	1267.4	1298.3	1303.4
55°	13340.4	10906.0	4549.8	1856.7	1692.0	1455.3	1134.9	1217.2	1248.0	1259.6	1258.4
57.5°	14259.1	10704.0	3678.6	1737.1	1681.7	1482.3	1096.2	1176.0	1235.2	1242.9	1231.3
60°	14084.1	9995.0	2708.5	1645.6	1605.8	1472.0	1084.7	1112.9	1206.9	1218.5	1203.0
62.5°	12735.6	8806.1	1879.8	1574.9	1438.5	1426.9	1080.9	1013.9	1145.1	1173.4	1151.6
65°	10236.9	6932.7	1327.9	1356.2	1261.0	1329.1	1060.3	911.0	1070.5	1109.2	1075.6
67.5°	7426.7	4691.2	958.6	1098.8	1142.6	1170.9	1013.9	836.3	985.6	1037.1	993.3
70°	4765.9	2533.5	672.9	725.7	962.5	994.7	934.2	769.5	899.4	958.6	911.0
72.5°	3387.8	1496.4	483.8	508.2	773.3	828.6	822.2	694.8	799.0	871.0	814.5
75°	2337.9	824.8	326.8	362.8	561.0	672.9	634.4	597.1	676.8	750.1	694.8
77.5°	1465.5	369.3	195.6	252.2	368.0	528.8	434.9	462.0	527.6	595.7	537.8
80°	815.8	142.8	109.4	167.3	200.7	384.7	240.6	297.2	388.6	437.5	391.1
82.5°	177.5	18.0	48.9	72.1	78.5	223.9	127.4	172.4	244.5	240.6	208.5
85°	0.0	0.0	9.0	10.2	5.1	96.5	46.3	56.6	79.7	74.6	56.6
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	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°	2586.3	2586.3	2586.3	2586.3	2586.3	2586.3	2586.3	2586.3	2586.3	2586.3	2586.3
2.5°	2316.0	2253.0	2206.6	2183.6	2164.2	2182.2	2192.5	2192.5	2236.2	2262.0	2272.3
5°	2098.6	1985.3	1899.1	1841.2	1806.5	1818.0	1831.0	1845.1	1900.5	1937.8	1962.2
7.5°	1948.0	1774.4	1643.1	1562.0	1519.6	1526.0	1535.0	1546.6	1600.6	1637.9	1670.1
10°	1919.7	1670.1	1484.8	1378.0	1326.6	1317.5	1312.4	1308.5	1340.7	1369.0	1394.8
12.5°	2035.5	1675.3	1416.7	1286.7	1223.6	1196.6	1165.7	1141.3	1146.5	1164.5	1196.6
15°	2242.7	1740.9	1394.8	1239.1	1160.6	1115.5	1079.5	1049.9	1043.6	1049.9	1055.1
17.5°	2479.5	1829.6	1392.2	1197.9	1100.1	1053.8	1024.2	997.2	988.2	989.4	995.9
20°	2636.4	1900.5	1384.5	1151.6	1042.2	1001.0	975.3	948.3	939.3	941.9	943.1
22.5°	2651.9	1937.8	1372.9	1100.1	984.3	949.6	923.8	899.4	898.1	898.1	905.8
25°	2568.2	1937.8	1348.5	1053.8	929.0	898.1	874.9	845.3	850.5	853.1	863.4
27.5°	2438.3	1891.4	1302.2	1016.5	881.4	849.2	826.0	799.0	805.4	809.3	820.9
30°	2309.6	1832.3	1246.8	974.1	836.3	799.0	782.3	759.1	761.7	766.9	779.7
32.5°	2189.9	1769.2	1181.2	939.3	791.3	754.0	741.2	715.3	719.2	724.4	738.5
35°	2071.5	1699.8	1104.0	898.1	750.1	712.8	702.5	672.9	675.5	683.3	698.6
37.5°	1944.2	1626.4	1040.9	856.9	710.2	671.7	661.3	630.5	633.0	642.1	660.1
40°	1810.4	1554.3	979.2	813.2	667.8	629.1	620.2	586.7	589.3	599.6	618.9
42.5°	1675.3	1475.8	931.5	756.6	624.0	582.9	573.9	542.9	546.8	558.4	577.7
45°	1550.4	1381.9	900.7	693.5	582.9	536.6	527.6	499.3	507.0	519.8	539.2
47.5°	1443.7	1285.5	887.9	640.7	539.2	488.9	481.2	458.1	470.9	485.1	500.5
50°	1352.3	1192.8	871.0	586.7	497.9	447.7	440.0	424.7	441.4	455.5	469.7
52.5°	1286.7	1087.2	835.1	537.8	462.0	413.1	410.4	402.7	418.2	431.0	443.9
55°	1230.1	977.8	777.2	495.4	429.8	383.5	386.0	382.1	395.0	405.3	416.9
57.5°	1178.6	882.6	703.9	462.0	395.0	357.7	365.4	360.3	366.7	373.1	387.2
60°	1116.8	786.2	616.3	424.7	353.8	332.0	341.0	326.8	325.5	328.1	332.0
62.5°	1025.5	656.2	525.0	378.3	317.9	303.7	307.5	280.5	259.9	259.9	263.7
65°	898.1	527.6	440.0	326.8	276.6	265.1	262.5	223.9	195.6	193.0	204.6
67.5°	750.1	433.6	365.4	275.3	230.3	222.6	225.2	196.9	168.5	165.9	178.9
70°	611.2	359.0	294.7	220.1	177.5	185.3	196.9	168.5	141.6	137.7	149.2
72.5°	496.6	285.7	230.3	168.5	131.2	153.1	167.3	137.7	111.9	109.4	119.6
75°	383.5	209.7	164.7	114.5	95.2	118.4	131.2	100.3	79.7	76.0	85.0
77.5°	256.0	130.0	92.7	72.1	56.6	81.1	87.5	52.8	46.3	45.0	51.5
80°	155.7	60.5	39.9	34.7	19.3	29.6	34.7	21.8	24.5	25.7	30.9
82.5°	78.5	16.7	6.5	1.3	0.0	0.0	10.2	5.1	10.2	12.9	19.3
85°	6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	6.5	11.6
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	2586.3	2586.3	2586.3	2586.3	2586.3	2586.3	2586.3	2586.3	2586.3	2586.3	2586.3
2.5°	2344.4	2398.4	2449.9	2532.2	2617.1	2700.8	2785.6	2868.1	2897.6	2919.5	2968.4
5°	2074.2	2175.8	2294.2	2457.5	2632.6	2812.7	2995.5	3162.6	3238.6	3290.0	3405.9
7.5°	1795.0	1927.4	2097.3	2343.0	2617.1	2904.0	3191.0	3454.8	3576.9	3676.1	3852.4
10°	1518.3	1662.4	1877.3	2157.7	2528.4	2940.1	3336.4	3699.2	3857.5	3982.3	4221.7
12.5°	1275.1	1410.2	1635.4	1945.4	2389.4	2911.8	3420.0	3856.3	4042.8	4183.0	4445.5
15°	1104.0	1199.1	1398.6	1733.2	2224.7	2820.4	3425.1	3930.9	4135.5	4282.1	4509.8
17.5°	1008.8	1040.9	1170.9	1517.0	2042.0	2700.8	3377.6	3956.6	4175.3	4311.7	4469.9
20°	957.2	962.5	998.5	1236.5	1807.8	2588.8	3332.5	3982.3	4212.6	4327.1	4374.7
22.5°	916.1	916.1	925.2	1011.4	1505.4	2455.0	3318.3	4027.3	4264.1	4334.8	4237.0
25°	878.8	878.8	881.4	904.6	1192.8	2250.4	3309.3	4096.8	4334.8	4354.2	4085.2
27.5°	840.2	841.5	841.5	854.3	961.1	1972.5	3270.8	4186.9	4419.8	4379.9	3939.8
30°	801.7	804.2	804.2	813.2	850.5	1647.0	3194.8	4295.0	4530.4	4413.3	3795.8
32.5°	763.0	765.6	765.6	773.3	800.3	1315.0	3099.6	4394.1	4642.3	4427.5	3661.9
35°	723.1	726.9	724.4	734.7	763.0	1046.1	2978.6	4493.1	4763.3	4472.5	3596.3
37.5°	683.3	685.8	684.5	694.8	726.9	903.2	2838.4	4567.7	4928.0	4572.9	3674.8
40°	643.4	642.1	642.1	653.6	688.4	862.1	2662.1	4686.1	5164.8	4749.1	4017.1
42.5°	602.2	602.2	599.6	612.4	655.0	831.2	2493.6	4898.4	5509.6	5029.7	4624.4
45°	564.9	563.5	558.4	570.0	622.8	777.2	2434.4	5294.7	6019.1	5483.9	5359.0
47.5°	528.8	527.6	514.7	525.0	584.1	728.3	2655.8	5943.3	6725.5	6151.6	6047.4
50°	496.6	497.9	473.6	482.5	545.5	691.0	3135.7	6784.7	7663.5	7051.1	6699.8
52.5°	467.1	467.1	434.9	440.0	497.9	657.5	3592.4	7696.9	8901.3	8305.6	7460.3
55°	437.5	434.9	398.8	401.5	450.4	609.9	3660.6	8587.3	10589.5	10193.1	8499.8
57.5°	404.1	398.8	365.4	365.4	406.6	575.1	3173.0	9271.8	12684.2	12967.3	9998.9
60°	362.8	359.0	337.1	330.7	371.9	606.0	2238.8	9351.7	14035.2	16656.1	12869.5
62.5°	310.1	315.2	303.7	294.7	338.4	629.1	1326.6	8709.6	13708.4	17829.7	16307.4
65°	244.5	265.1	262.5	256.0	371.9	530.1	783.6	7477.0	12706.0	16882.7	15606.2
67.5°	208.5	222.6	218.7	218.7	389.9	402.7	492.8	5841.6	11326.8	15759.4	13940.0
70°	177.5	191.7	177.5	177.5	294.7	244.5	341.0	4078.8	9838.1	14516.5	12846.3
72.5°	146.7	160.8	145.3	135.1	235.4	182.8	249.6	2549.0	8425.2	13222.0	12097.5
75°	111.9	128.6	117.1	104.2	155.7	136.4	189.1	1481.0	6980.2	11312.5	11030.7
77.5°	70.7	92.7	87.5	73.4	114.5	99.1	136.4	881.4	5386.1	8839.5	9488.0
80°	43.8	47.6	48.9	46.3	65.6	66.9	92.7	501.8	3686.4	6160.7	7412.6
82.5°	28.3	28.3	21.8	24.5	32.2	38.6	52.8	189.1	2166.7	3750.7	5159.6
85°	20.6	18.0	11.6	11.6	15.5	19.3	20.6	57.9	878.8	1481.0	2017.5
87.5°	10.2	9.0	3.9	5.1	7.7	6.5	5.1	2.6	221.3	473.6	332.0
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°	2586.3	2586.3	2586.3	2586.3	2586.3	2586.3	2586.3	2586.3
2.5°	2994.1	3034.0	3036.6	3036.6	3001.8	3000.6	2929.8	2922.1
5°	3525.5	3551.2	3557.7	3544.9	3475.4	3423.9	3286.3	3256.6
7.5°	4011.8	4063.4	4063.4	4032.5	3919.3	3813.7	3614.4	3539.6
10°	4400.4	4459.7	4446.8	4383.7	4240.9	4095.5	3853.6	3755.8
12.5°	4589.6	4650.1	4616.6	4544.5	4405.7	4252.5	3997.7	3887.1
15°	4585.7	4569.0	4534.3	4525.3	4458.3	4342.6	4104.5	3983.6
17.5°	4422.4	4280.8	4253.8	4343.8	4428.8	4400.4	4197.2	4083.9
20°	4163.8	3916.6	3892.2	4064.6	4306.5	4430.0	4283.4	4179.1
22.5°	3890.9	3624.6	3568.0	3758.4	4122.5	4439.1	4392.7	4288.5
25°	3632.3	3364.7	3308.1	3485.6	3918.0	4423.6	4511.1	4422.4
27.5°	3416.1	3157.5	3104.8	3282.4	3721.1	4379.9	4629.5	4566.5
30°	3248.8	3009.6	2971.0	3142.1	3551.2	4325.8	4780.1	4745.3
32.5°	3151.1	2976.1	2990.2	3130.6	3459.9	4266.7	4924.2	4940.9
35°	3247.6	3255.3	3378.8	3436.7	3544.9	4257.6	5119.8	5185.4
37.5°	3727.5	3995.1	4251.2	4203.6	3960.4	4361.9	5411.8	5534.1
40°	4544.5	5094.0	5509.6	5328.2	4715.7	4681.0	5832.6	6015.3
42.5°	5543.1	6474.6	7159.1	6672.7	5689.8	5239.4	6433.4	6666.3
45°	6596.9	8176.9	9255.1	8243.8	6728.1	6021.7	7343.1	7525.9
47.5°	7707.3	10245.9	11640.6	9986.0	7690.6	6912.1	8583.5	8626.0
50°	8921.9	12514.3	14072.5	11726.9	8619.5	7932.5	10099.2	10050.3
52.5°	10078.6	14847.1	16452.9	13475.5	9435.3	9198.6	11858.1	11757.8
55°	11182.6	17178.6	18847.4	15155.9	10204.7	10871.3	13947.7	13340.4
57.5°	12462.9	19274.6	21315.3	16844.0	11280.4	13043.1	16284.3	14259.1
60°	14355.5	21656.2	24106.1	19157.5	13326.2	15325.7	17121.9	14084.1
62.5°	16772.0	23846.2	26135.2	21424.7	15381.0	15755.5	15888.0	12735.6
65°	17241.6	24400.7	26249.7	22030.6	15116.0	13364.9	12971.1	10236.9
67.5°	15996.1	23398.4	24649.1	20902.2	13371.2	10328.2	9733.8	7426.7
70°	14598.8	21487.7	21859.6	18983.8	11760.3	7596.6	6573.7	4765.9
72.5°	13166.6	18938.7	18169.4	16486.3	10336.0	5531.5	4741.4	3387.8
75°	11465.6	15587.0	14311.9	13698.1	8557.7	4341.3	3430.3	2337.9
77.5°	9181.8	10971.6	10630.6	10617.8	6430.8	3171.7	2289.0	1465.5
80°	6477.2	7120.6	6946.8	7996.7	4314.2	2300.6	1378.0	815.8
82.5°	3135.7	3937.2	4041.5	4762.0	2098.6	1353.6	317.9	177.5
85°	1227.5	1899.1	1602.0	1807.8	589.3	377.0	7.7	0.0
87.5°	137.7	220.1	202.0	159.6	72.1	15.5	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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