

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: P967354

Luminaire Tested: **NAV-SB4D-830-U-SLR-HSS**

Issue Date: 1/21/2025

Test Information

Test Method: LM-79-08
Report Number: P967354
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-SB4D-830-U-SLR-HSS
Description: NAVION ROADWAY AND AREA HIGH DENSITY LED LUMINAIRE
(4) 80 CRI, 3000K, 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: 28667.2 lumens
Efficiency: N/A
Efficacy: 97.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B3 - U0 - G5

Input Watts (W): 293.6
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

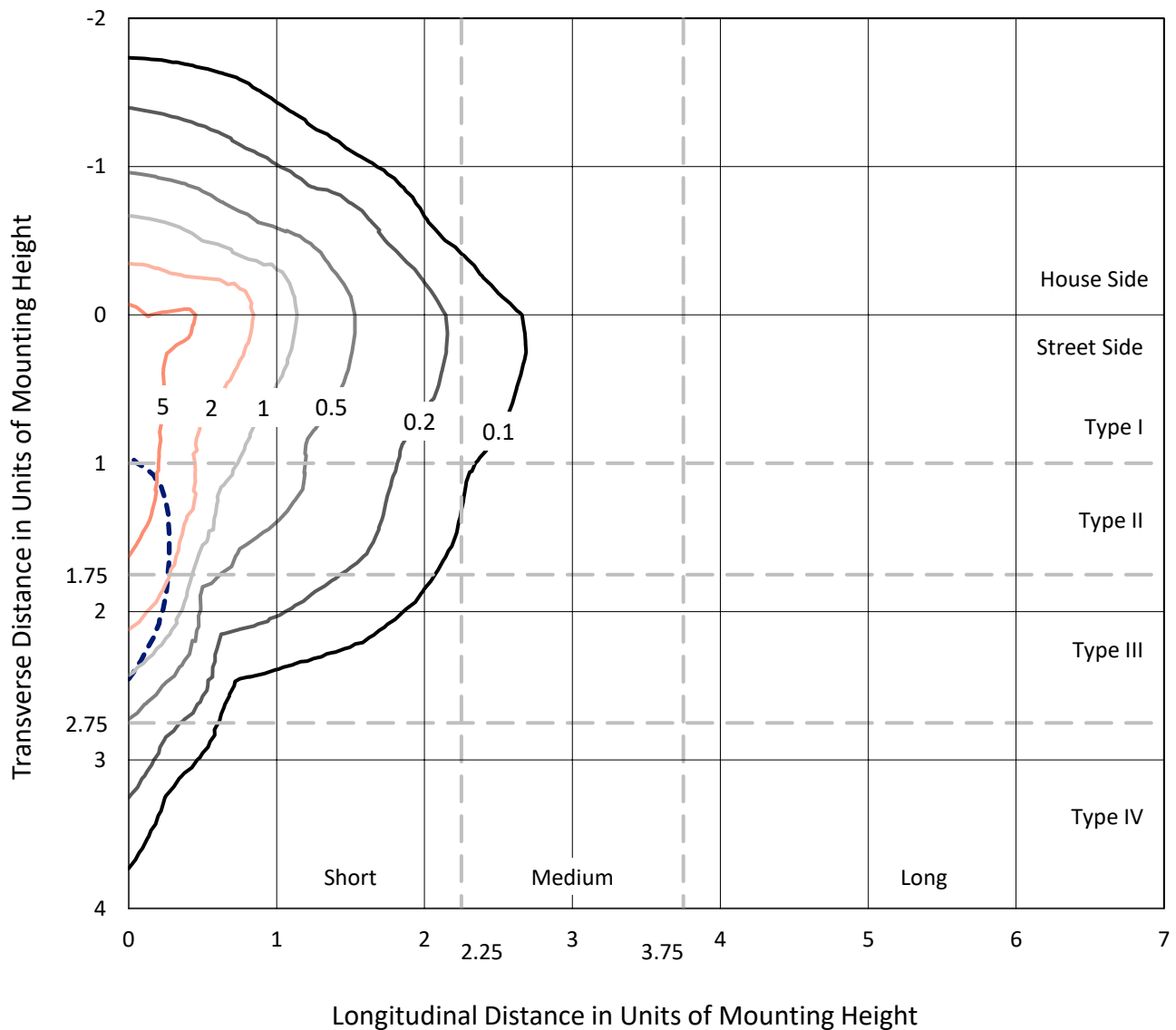


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
- - - 1/2 Max cd

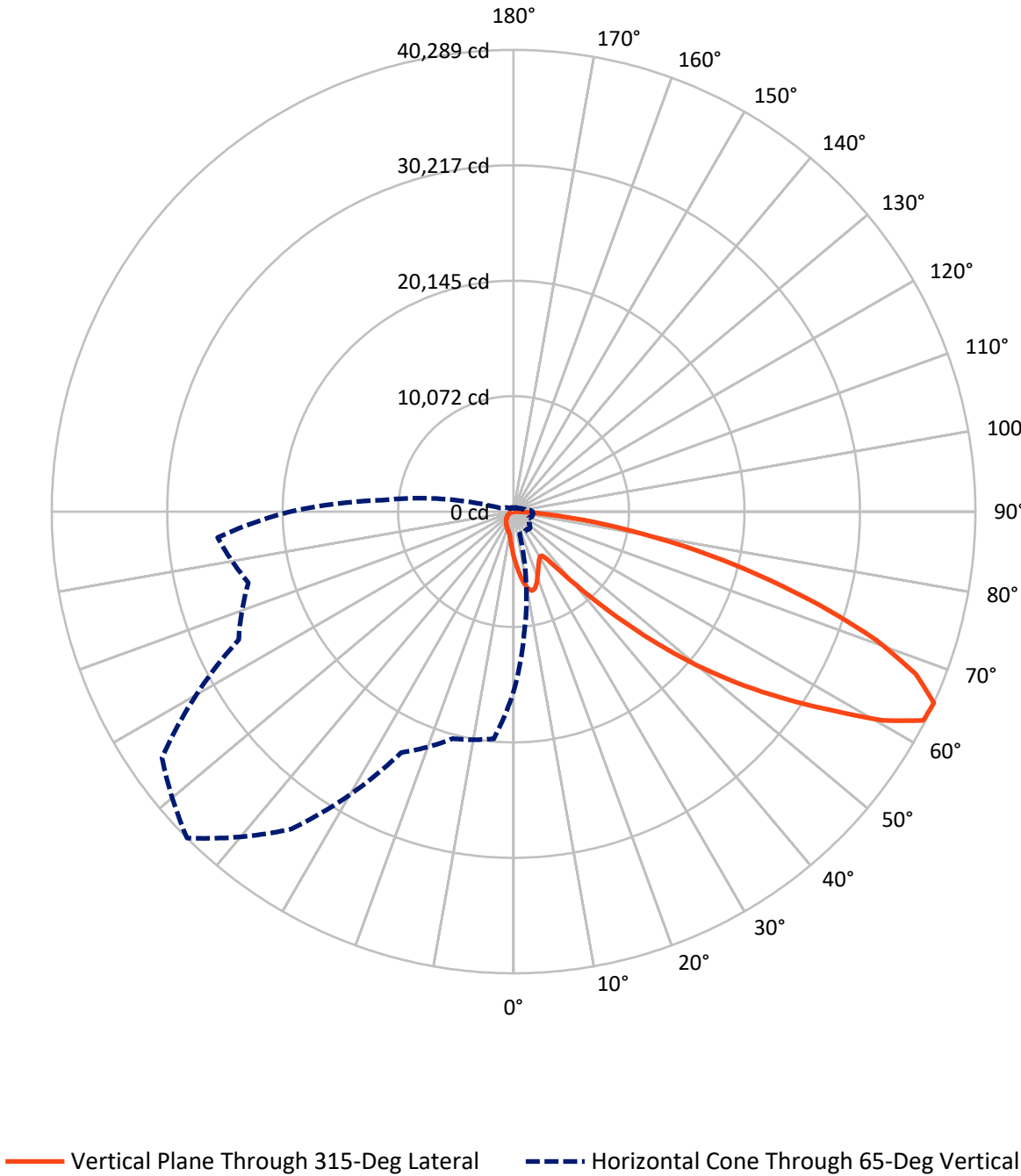


Based on 25 foot mounting height. Maximum calculated value = 8.8 fc

Type IV - Short - N/A

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Luminous Intensity Polar Plot



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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4014.6	0.0	4014.6
	% Fixture	14.0	0.0	14.0
Street Side	Lumens	24652.6	0.0	24652.6
	% Fixture	86.0	0.0	86.0
Total	Lumens	28667.2	0.0	28667.2
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	390.8	1.4
10°-20°	1171.5	4.1
20°-30°	1725.9	6.0
30°-40°	2217.3	7.7
40°-50°	3586.1	12.5
50°-60°	6288.5	21.9
60°-70°	7868.6	27.4
70°-80°	4598.1	16.0
80°-90°	820.4	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°	28667.2	100.0
0°-180°	28667.2	100.0

Coefficient of Utilization



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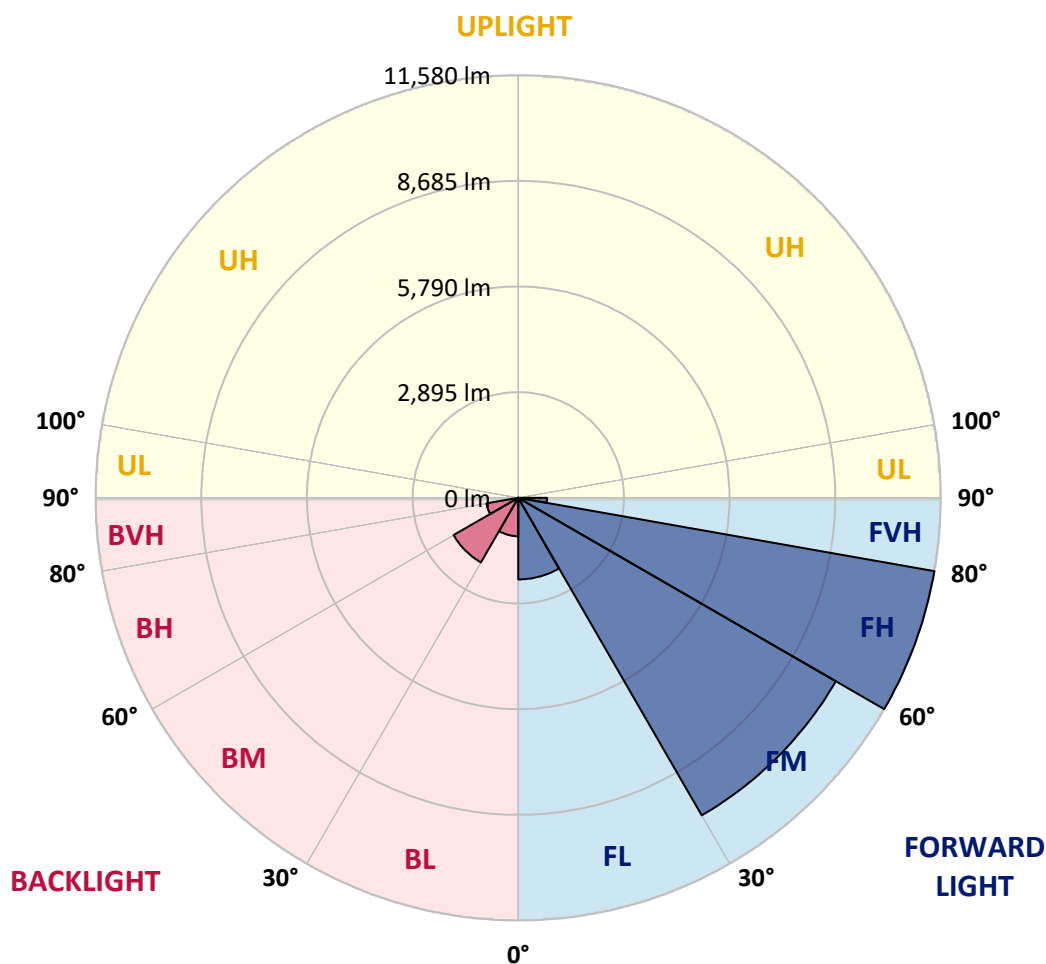
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2235.9	7.8			
FM	(30°-60°)	10047.5	35.0			
FH	(60°-80°)	11580.2	40.4			G4/12000
FVH	(80°-90°)	788.9	2.8			G5
BL	(0°-30°)	1052.3	3.7	B3/2500		
BM	(30°-60°)	2044.3	7.1	B2/2500		
BH	(60°-80°)	886.5	3.1	B2/1000		G2/1000
BVH	(80°-90°)	31.5	0.1			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G5

Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	3969.5	3969.5	3969.5	3969.5	3969.5	3969.5	3969.5	3969.5	3969.5	3969.5	3969.5
2.5°	4484.9	4407.9	4362.5	4250.0	4137.3	4046.5	3924.1	3843.1	3746.4	3653.5	3570.6
5°	4998.4	4874.0	4723.9	4518.5	4330.9	4139.4	3953.7	3770.1	3576.5	3398.8	3290.1
7.5°	5432.9	5253.1	4988.6	4716.0	4477.0	4246.0	4028.8	3785.8	3550.8	3272.3	3124.2
10°	5764.6	5535.5	5187.9	4830.5	4556.0	4323.0	4111.7	3906.3	3669.3	3333.6	3148.0
12.5°	5966.1	5721.2	5308.5	4889.8	4575.8	4315.0	4151.1	4060.3	3967.5	3633.7	3416.5
15°	6114.2	5849.6	5393.3	4931.3	4530.4	4210.4	4090.0	4180.8	4287.5	4074.2	3823.4
17.5°	6268.3	5989.8	5503.9	4949.0	4407.9	4007.0	3955.7	4190.7	4437.5	4427.7	4178.8
20°	6414.3	6137.9	5600.7	4937.2	4210.4	3760.1	3805.6	4105.7	4392.1	4512.6	4378.3
22.5°	6582.2	6289.9	5693.6	4891.7	3953.7	3529.1	3671.2	3971.5	4222.3	4364.4	4323.0
25°	6787.7	6481.5	5823.8	4824.6	3677.2	3337.5	3535.0	3815.5	4018.8	4117.6	4115.6
27.5°	7008.8	6710.6	5997.7	4789.1	3454.0	3201.3	3381.0	3629.8	3811.5	3880.6	3880.6
30°	7283.3	6977.2	6203.1	4749.5	3307.9	3122.3	3221.1	3414.6	3592.3	3661.4	3661.4
32.5°	7583.5	7273.4	6400.5	4654.7	3219.0	3063.0	3065.0	3187.4	3349.4	3432.3	3444.2
35°	7958.7	7629.0	6611.9	4447.4	3148.0	2993.9	2912.9	2972.2	3106.5	3205.2	3230.9
37.5°	8493.9	8095.0	6870.6	4151.1	3043.2	2887.2	2752.9	2766.8	2869.5	2978.1	3017.6
40°	9232.5	8721.0	7174.7	3843.1	2893.2	2737.2	2577.2	2571.3	2646.3	2752.9	2796.4
42.5°	10231.8	9548.5	7540.1	3548.9	2749.0	2555.5	2391.5	2381.7	2440.9	2533.8	2579.2
45°	11551.0	10607.0	7988.3	3296.1	2636.4	2377.8	2215.8	2211.8	2261.3	2342.2	2389.6
47.5°	13239.5	12078.3	8436.7	3124.2	2577.2	2237.6	2071.6	2079.5	2123.0	2196.1	2229.6
50°	15425.7	13995.9	8572.9	3037.4	2577.2	2162.4	1943.3	1982.8	2018.3	2073.6	2093.4
52.5°	18046.4	15836.5	8122.6	2958.4	2593.0	2172.4	1834.6	1919.6	1945.2	1992.6	2000.6
55°	20475.5	16739.0	6983.1	2849.7	2596.9	2233.6	1741.9	1868.3	1915.6	1933.4	1931.4
57.5°	21885.5	16428.9	5646.1	2666.0	2581.2	2275.1	1682.6	1805.0	1895.8	1907.7	1890.0
60°	21616.9	15340.8	4157.1	2525.9	2464.6	2259.2	1664.8	1708.3	1852.4	1870.2	1846.5
62.5°	19547.3	13516.1	2885.3	2417.3	2208.0	2190.1	1658.9	1556.2	1757.7	1801.1	1767.5
65°	15712.0	10640.6	2038.1	2081.5	1935.4	2040.1	1627.3	1398.2	1643.1	1702.3	1651.0
67.5°	11398.9	7200.4	1471.3	1686.5	1753.7	1797.1	1556.2	1283.7	1512.8	1591.7	1524.6
70°	7314.9	3888.5	1032.9	1113.9	1477.2	1526.5	1433.8	1181.0	1380.5	1471.3	1398.2
72.5°	5199.8	2296.8	742.5	780.0	1186.8	1271.8	1262.0	1066.4	1226.4	1337.0	1250.1
75°	3588.3	1265.9	501.6	556.9	861.0	1032.9	973.6	916.4	1038.7	1151.4	1066.4
77.5°	2249.4	566.8	300.2	387.0	564.8	811.7	667.5	709.0	809.6	914.4	825.5
80°	1252.0	219.2	167.9	256.8	308.1	590.5	369.3	456.2	596.4	671.5	600.3
82.5°	272.5	27.7	75.0	110.6	120.4	343.6	195.5	264.7	375.3	369.3	319.9
85°	0.0	0.0	13.8	15.8	7.9	148.1	71.1	86.9	122.5	114.5	86.9
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	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°	3969.5	3969.5	3969.5	3969.5	3969.5	3969.5	3969.5	3969.5	3969.5	3969.5	3969.5
2.5°	3554.8	3458.0	3386.9	3351.3	3321.7	3349.4	3365.2	3365.2	3432.3	3471.8	3487.7
5°	3221.1	3047.2	2914.9	2826.0	2772.7	2790.5	2810.2	2832.0	2916.8	2974.1	3011.7
7.5°	2989.9	2723.3	2521.9	2397.5	2332.3	2342.2	2356.1	2373.8	2456.7	2514.0	2563.4
10°	2946.5	2563.4	2279.0	2115.1	2036.1	2022.2	2014.3	2008.5	2057.8	2101.2	2140.7
12.5°	3124.2	2571.3	2174.3	1974.9	1878.1	1836.6	1789.2	1751.7	1759.6	1787.3	1836.6
15°	3442.2	2672.0	2140.7	1901.8	1781.3	1712.3	1656.9	1611.5	1601.7	1611.5	1619.4
17.5°	3805.6	2808.3	2136.8	1838.6	1688.5	1617.4	1572.0	1530.5	1516.7	1518.6	1528.6
20°	4046.5	2916.8	2124.9	1767.5	1599.6	1536.5	1496.9	1455.5	1441.7	1445.6	1447.6
22.5°	4070.2	2974.1	2107.2	1688.5	1510.7	1457.4	1418.0	1380.5	1378.4	1378.4	1390.3
25°	3941.8	2974.1	2069.7	1617.4	1425.9	1378.4	1343.0	1297.4	1305.4	1309.3	1325.1
27.5°	3742.4	2903.1	1998.5	1560.2	1352.8	1303.4	1267.8	1226.4	1236.3	1242.2	1259.9
30°	3544.9	2812.2	1913.7	1495.0	1283.7	1226.4	1200.7	1165.2	1169.1	1177.0	1196.8
32.5°	3361.2	2715.4	1812.9	1441.7	1214.5	1157.2	1137.5	1098.0	1103.9	1111.8	1133.5
35°	3179.5	2608.8	1694.4	1378.4	1151.4	1094.1	1078.3	1032.9	1036.8	1048.7	1072.4
37.5°	2984.0	2496.3	1597.7	1315.3	1090.1	1030.8	1015.1	967.7	971.6	985.4	1013.1
40°	2778.7	2385.7	1502.9	1248.1	1025.0	965.8	951.9	900.6	904.5	920.2	949.9
42.5°	2571.3	2265.1	1429.8	1161.2	957.9	894.6	880.8	833.4	839.3	857.1	886.7
45°	2379.7	2121.0	1382.4	1064.5	894.6	823.5	809.6	766.3	778.1	797.9	827.5
47.5°	2215.8	1972.9	1362.6	983.5	827.5	750.4	738.6	703.0	722.8	744.6	768.2
50°	2075.6	1830.8	1337.0	900.6	764.2	687.3	675.4	651.7	677.4	699.2	720.8
52.5°	1974.9	1668.8	1281.7	825.5	709.0	634.0	630.0	618.2	641.9	661.5	681.3
55°	1887.9	1500.9	1192.8	760.3	659.6	588.6	592.4	586.5	606.3	622.1	639.9
57.5°	1809.0	1354.7	1080.2	709.0	606.3	549.0	560.9	553.0	562.8	572.7	594.4
60°	1714.2	1206.6	946.0	651.7	543.0	509.5	523.4	501.6	499.7	503.6	509.5
62.5°	1574.0	1007.2	805.8	580.7	487.8	466.1	472.0	430.5	398.9	398.9	404.9
65°	1378.4	809.6	675.4	501.6	424.6	406.8	402.8	343.6	300.2	296.2	314.0
67.5°	1151.4	665.5	560.9	422.6	353.5	341.6	345.6	302.2	258.7	254.7	274.5
70°	938.1	551.0	452.2	337.7	272.5	284.3	302.2	258.7	217.2	211.4	229.1
72.5°	762.3	438.4	353.5	258.7	201.4	235.0	256.8	211.4	171.8	167.9	183.7
75°	588.6	322.0	252.8	175.8	146.2	181.7	201.4	154.1	122.5	116.5	130.4
77.5°	393.0	199.5	142.2	110.6	86.9	124.4	134.3	81.0	71.1	69.1	79.0
80°	238.9	92.9	61.2	53.3	29.6	45.4	53.3	33.6	37.5	39.5	47.4
82.5°	120.4	25.6	9.8	1.9	0.0	0.0	15.8	7.9	15.8	19.8	29.6
85°	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	9.8	17.7
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.9
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°	3969.5	3969.5	3969.5	3969.5	3969.5	3969.5	3969.5	3969.5	3969.5	3969.5	3969.5
2.5°	3598.3	3681.2	3760.1	3886.6	4016.9	4145.2	4275.6	4402.0	4447.4	4481.0	4556.0
5°	3183.4	3339.6	3521.2	3772.0	4040.6	4317.1	4597.5	4854.2	4970.7	5049.8	5227.5
7.5°	2755.0	2958.4	3219.0	3596.2	4016.9	4457.3	4897.7	5302.5	5490.1	5642.2	5912.7
10°	2330.3	2551.5	2881.4	3311.9	3880.6	4512.6	5120.8	5677.8	5920.7	6112.2	6479.5
12.5°	1957.1	2164.5	2510.0	2986.0	3667.3	4469.1	5249.2	5918.7	6205.0	6420.3	6823.2
15°	1694.4	1840.6	2146.7	2660.2	3414.6	4328.9	5257.1	6033.3	6347.2	6572.4	6921.9
17.5°	1548.3	1597.7	1797.1	2328.4	3134.1	4145.2	5184.0	6072.7	6408.5	6617.8	6860.7
20°	1469.3	1477.2	1532.5	1897.9	2774.7	3973.4	5115.0	6112.2	6465.7	6641.5	6714.6
22.5°	1406.1	1406.1	1419.9	1552.3	2310.6	3768.0	5093.2	6181.4	6544.7	6653.4	6503.2
25°	1348.8	1348.8	1352.8	1388.4	1830.8	3454.0	5079.4	6288.0	6653.4	6683.0	6270.2
27.5°	1289.6	1291.6	1291.6	1311.3	1475.2	3027.4	5020.1	6426.2	6783.7	6722.5	6047.1
30°	1230.3	1234.3	1234.3	1248.1	1305.4	2527.9	4903.6	6592.1	6953.5	6773.8	5825.9
32.5°	1171.1	1175.1	1175.1	1186.8	1228.4	2018.3	4757.4	6744.2	7125.3	6795.5	5620.5
35°	1109.9	1115.8	1111.8	1127.6	1171.1	1605.6	4571.8	6896.2	7311.0	6864.6	5519.7
37.5°	1048.7	1052.6	1050.6	1066.4	1115.8	1386.3	4356.6	7010.8	7563.8	7018.7	5640.3
40°	987.5	985.4	985.4	1003.3	1056.6	1323.2	4086.0	7192.5	7927.1	7289.3	6165.6
42.5°	924.2	924.2	920.2	940.0	1005.2	1275.8	3827.3	7518.4	8456.4	7719.8	7097.7
45°	866.9	865.0	857.1	874.8	955.8	1192.8	3736.4	8126.6	9238.4	8416.9	8225.3
47.5°	811.7	809.6	790.0	805.8	896.6	1117.8	4076.1	9121.9	10322.7	9441.9	9281.9
50°	762.3	764.2	726.7	740.6	837.3	1060.5	4812.8	10413.5	11762.3	10822.3	10283.1
52.5°	716.9	716.9	667.5	675.4	764.2	1009.1	5513.9	11813.6	13662.1	12747.8	11450.3
55°	671.5	667.5	612.2	616.1	691.2	936.1	5618.5	13180.3	16253.2	15644.9	13046.0
57.5°	620.1	612.2	560.9	560.9	624.0	882.7	4870.0	14230.9	19468.2	19902.7	15346.7
60°	556.9	551.0	517.4	507.6	570.7	930.2	3436.3	14353.4	21541.9	25564.7	19752.7
62.5°	475.9	483.8	466.1	452.2	519.4	965.8	2036.1	13367.9	21040.3	27365.8	25029.5
65°	375.3	406.8	402.8	393.0	570.7	813.6	1202.7	11476.0	19501.9	25912.3	23953.2
67.5°	319.9	341.6	335.7	335.7	598.4	618.2	756.3	8965.9	17384.8	24188.3	21395.7
70°	272.5	294.3	272.5	272.5	452.2	375.3	523.4	6260.3	15099.9	22280.5	19717.1
72.5°	225.1	246.8	223.1	207.4	361.4	280.4	383.1	3912.2	12931.5	20293.8	18567.8
75°	171.8	197.5	179.7	160.0	238.9	209.3	290.3	2273.0	10713.7	17363.1	16930.5
77.5°	108.6	142.2	134.3	112.5	175.8	152.1	209.3	1352.8	8266.8	13567.3	14562.7
80°	67.1	73.1	75.0	71.1	100.8	102.7	142.2	770.2	5658.0	9455.7	11377.2
82.5°	43.5	43.5	33.6	37.5	49.4	59.2	81.0	290.3	3325.7	5756.7	7919.3
85°	31.6	27.7	17.7	17.7	23.7	29.6	31.6	88.9	1348.8	2273.0	3096.6
87.5°	15.8	13.8	5.9	7.9	11.9	9.8	7.9	4.0	339.7	726.7	509.5
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):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	3969.5	3969.5	3969.5	3969.5	3969.5	3969.5	3969.5	3969.5
2.5°	4595.5	4656.8	4660.7	4660.7	4607.4	4605.4	4496.8	4484.9
5°	5411.2	5450.6	5460.5	5440.8	5334.1	5255.2	5043.8	4998.4
7.5°	6157.7	6236.6	6236.6	6189.3	6015.4	5853.5	5547.4	5432.9
10°	6754.0	6845.0	6825.2	6728.4	6509.2	6286.0	5914.8	5764.6
12.5°	7044.3	7137.2	7085.8	6975.2	6761.9	6527.0	6136.0	5966.1
15°	7038.5	7012.7	6959.4	6945.6	6842.9	6665.2	6299.9	6114.2
17.5°	6787.7	6570.4	6528.9	6667.1	6797.5	6754.0	6442.0	6268.3
20°	6390.7	6011.5	5974.0	6238.7	6609.9	6799.4	6574.4	6414.3
22.5°	5972.0	5563.2	5476.3	5768.6	6327.5	6813.3	6742.2	6582.2
25°	5575.1	5164.3	5077.4	5349.9	6013.5	6789.6	6923.9	6787.7
27.5°	5243.3	4846.3	4765.3	5037.9	5711.3	6722.5	7105.6	7008.8
30°	4986.5	4619.3	4560.0	4822.6	5450.6	6639.5	7336.6	7283.3
32.5°	4836.5	4567.9	4589.6	4804.9	5310.4	6548.6	7557.8	7583.5
35°	4984.6	4996.5	5186.0	5274.9	5440.8	6534.9	7858.1	7958.7
37.5°	5721.2	6132.0	6524.9	6451.9	6078.7	6694.8	8306.3	8493.9
40°	6975.2	7818.5	8456.4	8178.0	7237.9	7184.5	8952.0	9232.5
42.5°	8507.7	9937.6	10988.2	10241.7	8732.9	8041.6	9874.3	10231.8
45°	10125.2	12550.3	14205.3	12653.0	10326.6	9242.4	11270.6	11551.0
47.5°	11829.5	15725.9	17866.7	15326.9	11803.8	10609.0	13174.3	13239.5
50°	13693.8	19207.6	21599.2	17999.0	13229.7	12175.1	15500.8	15425.7
52.5°	15469.2	22788.0	25252.7	20682.9	14481.7	14118.4	18200.4	18046.4
55°	17163.6	26366.5	28927.9	23262.0	15662.7	16685.7	21407.6	20475.5
57.5°	19128.6	29583.5	32715.7	25853.1	17313.7	20019.3	24994.0	21885.5
60°	22033.6	33239.0	36999.2	29403.9	20453.8	23522.7	26279.6	21616.9
62.5°	25742.5	36600.3	40113.6	32883.5	23607.6	24182.3	24385.7	19547.3
65°	26463.2	37451.4	40289.4	33813.7	23200.8	20513.0	19908.7	15712.0
67.5°	24551.6	35913.0	37832.5	32081.8	20522.9	15852.2	14939.9	11398.9
70°	22406.9	32980.3	33551.1	29137.3	18050.4	11659.7	10089.6	7314.9
72.5°	20208.9	29068.1	27887.2	25304.0	15864.1	8490.0	7277.4	5199.8
75°	17598.1	23923.6	21966.5	21024.5	13134.9	6663.2	5265.0	3588.3
77.5°	14092.7	16839.7	16316.4	16296.7	9870.4	4868.0	3513.3	2249.4
80°	9941.5	10929.0	10662.4	12273.9	6621.7	3531.0	2115.1	1252.0
82.5°	4812.8	6043.1	6203.1	7309.0	3221.1	2077.6	487.8	272.5
85°	1884.1	2914.9	2458.7	2774.7	904.5	578.6	11.9	0.0
87.5°	211.4	337.7	310.1	244.9	110.6	23.7	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)