

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: P195741

Luminaire Tested: **NAV-AF-03-D-UNV-SLL-7050-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195741
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-03-D-UNV-SLL-7050-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 5000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT
ELIMINATOR LEFT OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 17550 lumens
Efficiency: N/A
Efficacy: 91.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G3

Input Watts (W): 191
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

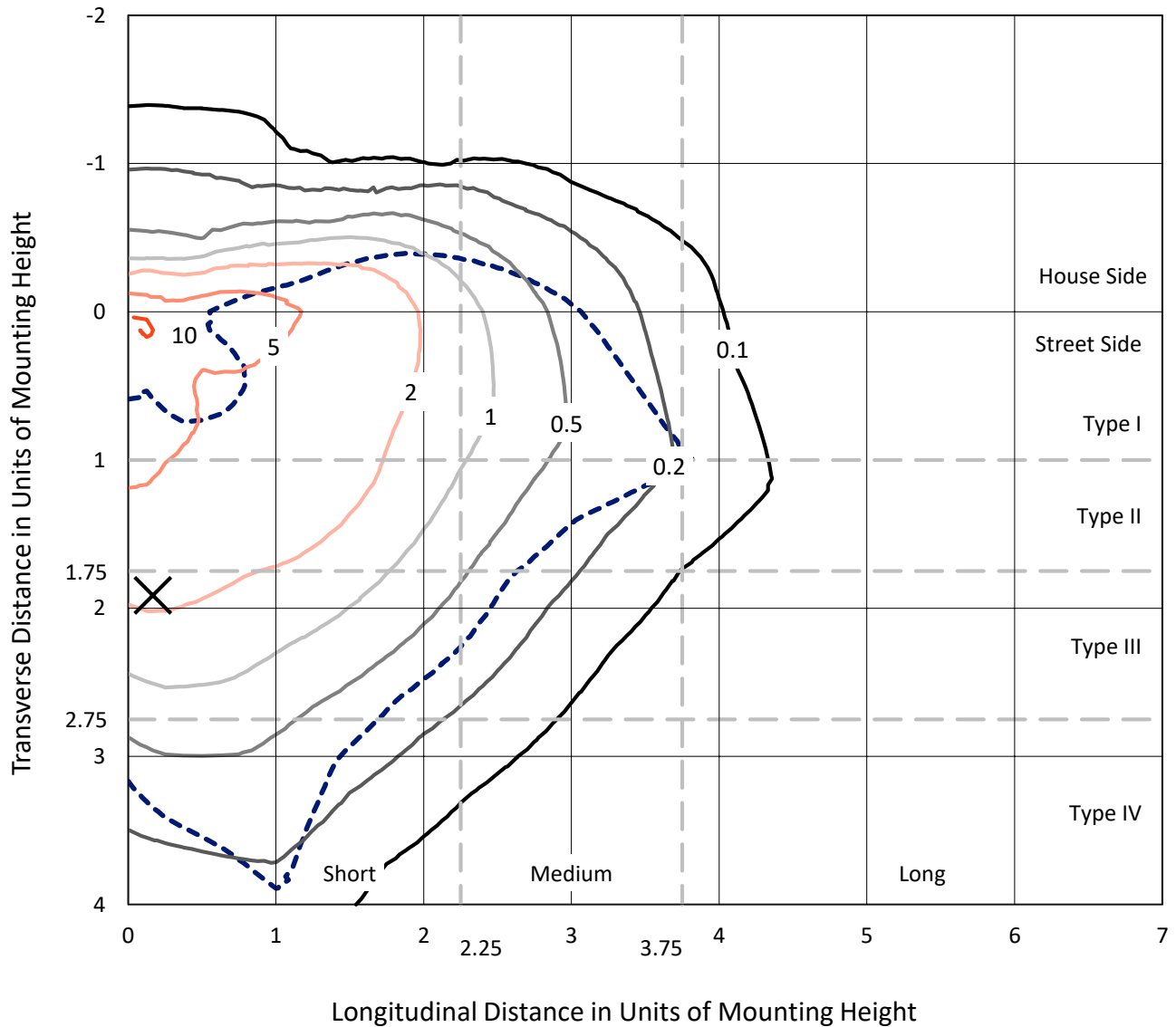


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Iso-Footcandle Lines of Horizontal Illumination

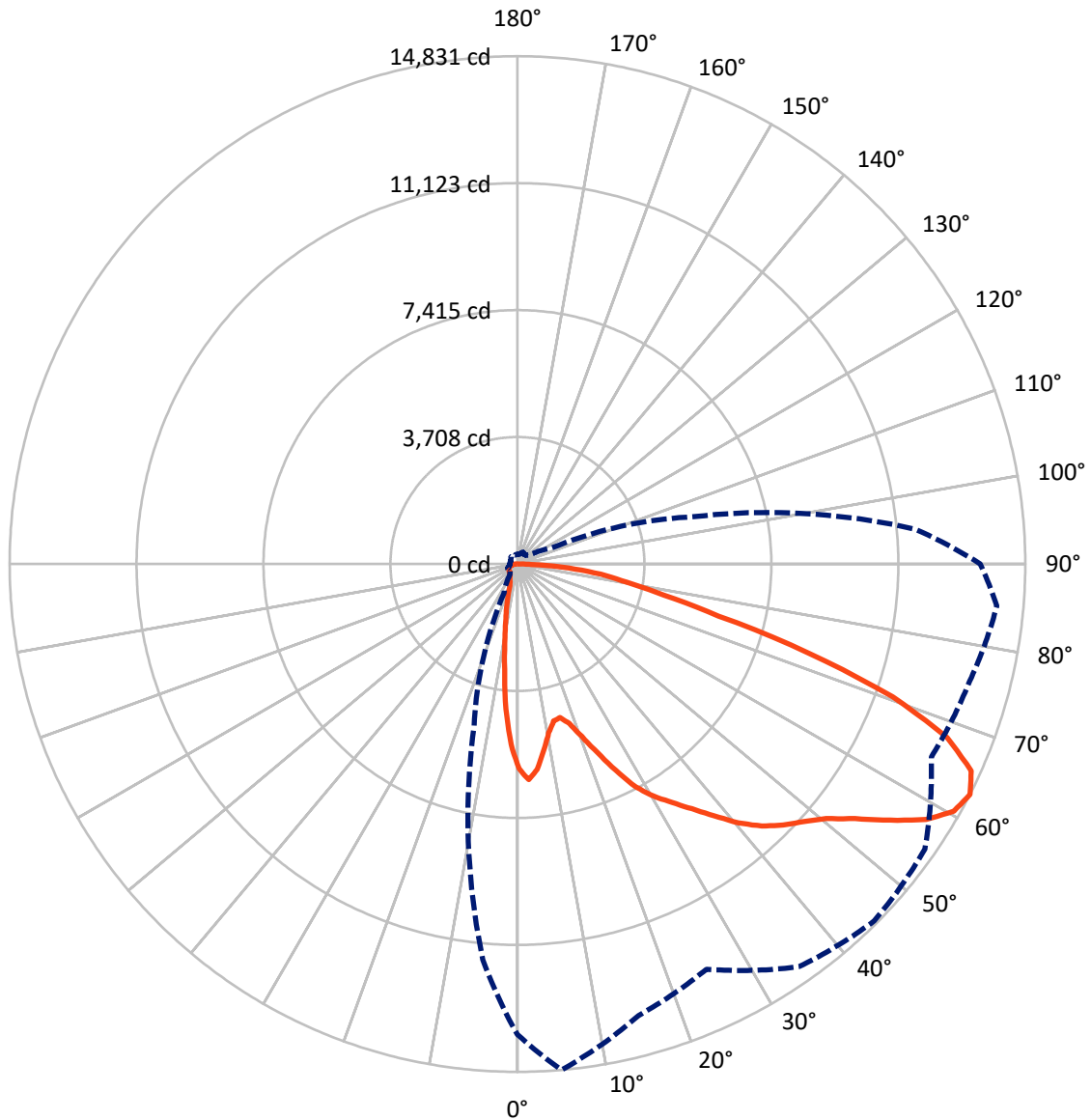
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 11 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
House Side	Lumens	3109.0	0.0	3109.0
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	14441.0	0.0	14441.0
	% Fixture	82.3	0.0	82.3
Total	Lumens	17550.0	0.0	17550.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	435.1	2.5
10°-20°	794.7	4.5
20°-30°	1143.1	6.5
30°-40°	1750.7	10.0
40°-50°	2559.6	14.6
50°-60°	3724.2	21.2
60°-70°	4315.0	24.6
70°-80°	2249.3	12.8
80°-90°	578.2	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°	17550.0	100.0
0°-180°	17550.0	100.0



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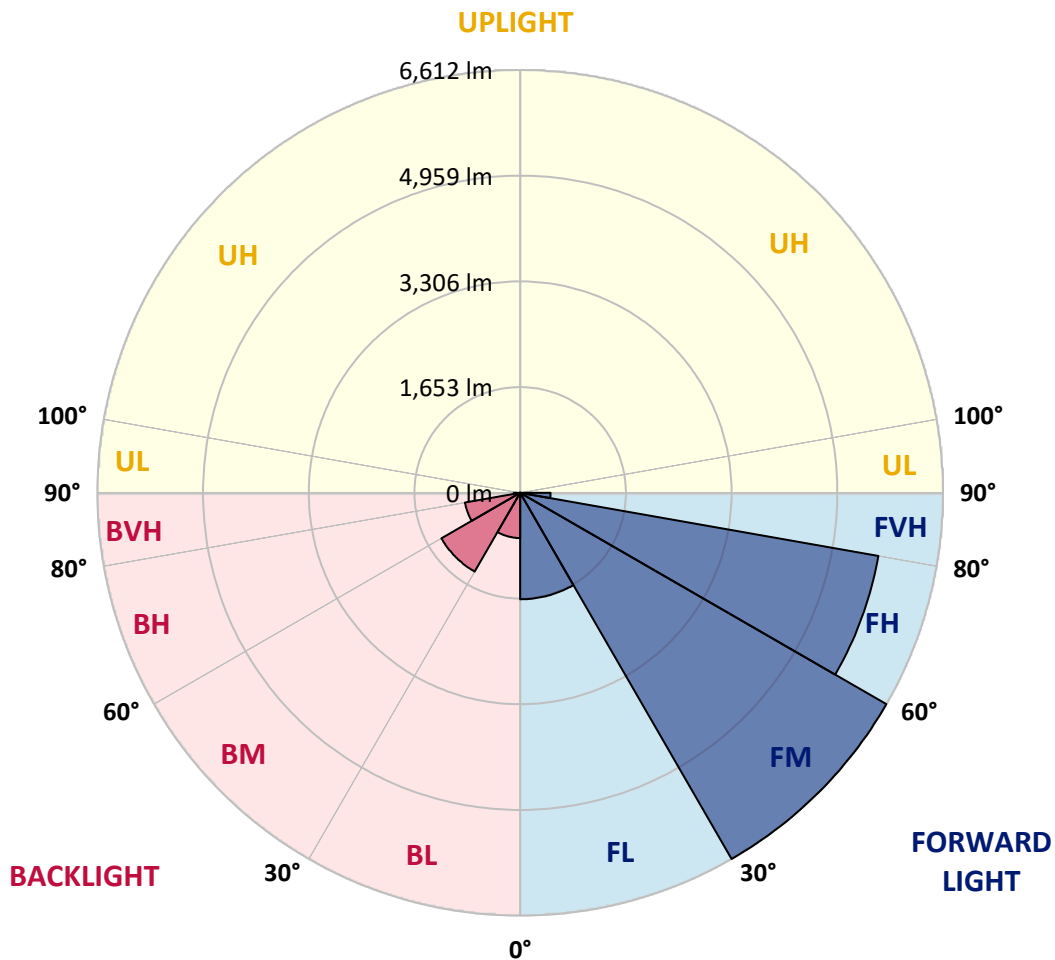
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1665.6	9.5			
FM (30°-60°)	6612.0	37.7			
FH (60°-80°)	5687.7	32.4			G3/7500
FVH (80°-90°)	475.7	2.7			G3/500
BL (0°-30°)	707.4	4.0	B2/1000		
BM (30°-60°)	1422.5	8.1	B2/2500		
BH (60°-80°)	876.6	5.0	B2/1000		G2/1000
BVH (80°-90°)	102.5	0.6			G2/225
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°	5983.1	5983.1	5983.1	5983.1	5983.1	5983.1	5983.1	5983.1	5983.1	5983.1	5983.1
2.5°	6176.6	6307.6	6457.8	6653.7	6787.3	6840.8	6885.3	6810.2	6737.7	6601.6	6553.2
5°	5769.4	6021.3	6434.9	6828.1	7174.2	7372.7	7433.8	7295.1	7048.2	6691.9	6503.6
7.5°	5164.9	5497.1	6078.6	6657.6	7153.8	7484.7	7508.8	7234.0	6747.9	6163.8	5858.4
10°	4636.9	5012.3	5685.4	6333.1	6858.6	7197.1	7130.9	6745.4	6158.7	5494.5	5149.7
12.5°	4330.2	4705.6	5391.4	6049.3	6544.3	6672.8	6537.9	6213.5	5657.4	4991.9	4644.5
15°	4265.3	4652.1	5287.1	5841.9	6148.6	6065.9	5932.2	5768.1	5372.4	4827.7	4491.8
17.5°	4461.3	4893.9	5425.8	5729.9	5717.2	5518.7	5406.7	5438.5	5371.1	5005.9	4654.7
20°	4864.6	5376.2	5778.3	5699.4	5373.6	5095.0	5030.1	5279.5	5591.2	5452.5	5067.0
22.5°	5395.3	5978.1	6259.3	5787.2	5194.2	4893.9	4881.2	5270.6	5992.1	6128.2	5658.7
25°	5994.6	6674.1	6744.1	5942.4	5175.1	4876.1	4864.6	5408.0	6474.3	6797.5	6321.6
27.5°	6727.5	7376.5	7148.7	6149.8	5259.1	4928.3	4935.9	5642.1	6976.9	7459.2	7068.6
30°	7279.8	7875.3	7398.1	6353.4	5394.0	5019.9	5039.0	5895.3	7248.0	7918.6	7665.3
32.5°	7796.4	8301.6	7637.4	6554.5	5591.2	5156.0	5222.2	6210.9	7573.7	8313.0	8229.1
35°	8367.7	8778.8	7903.3	6769.5	5873.7	5395.3	5490.7	6511.2	7896.9	8707.5	8787.7
37.5°	9015.4	9324.6	8192.1	7073.6	6280.9	5838.1	5891.5	6817.9	8122.2	9144.0	9387.0
40°	9689.8	9936.7	8507.7	7479.6	6872.6	6436.1	6461.6	7211.1	8299.0	9595.7	9968.5
42.5°	10268.8	10461.0	8824.6	7983.5	7552.1	7045.7	7067.3	7634.8	8468.3	9985.1	10434.2
45°	10732.0	10873.2	9123.6	8514.1	8277.4	7806.6	7801.5	8066.2	8694.8	10313.4	10791.8
47.5°	11163.4	11238.4	9457.0	9030.7	9029.4	8786.4	8604.4	8575.2	8996.3	10589.5	11103.6
50°	11657.1	11685.1	9897.3	9552.4	9948.2	9910.0	9574.0	9221.6	9387.0	10900.0	11430.6
52.5°	12344.2	12345.5	10443.1	10061.4	10962.3	11083.2	10692.5	9953.2	9964.7	11504.4	11995.6
55°	13152.2	13208.2	11154.5	10670.9	12023.6	12229.7	11861.9	10822.3	10794.3	12479.1	12911.7
57.5°	13777.0	14073.5	11982.8	11433.1	13014.8	13283.3	12986.8	11723.2	11813.6	13484.3	13667.6
60°	13952.6	14646.1	12808.7	12288.2	13853.4	14256.7	13955.2	12696.7	12811.2	14137.1	13885.2
62.5°	13742.7	14830.6	13649.8	13054.2	14350.9	14737.7	14521.4	13334.2	13624.3	14053.1	13517.4
65°	13120.4	14563.4	14380.2	13380.0	14064.6	14202.0	14144.8	13367.3	14065.9	13259.1	12500.7
67.5°	11667.3	13532.7	14054.4	12684.0	12727.2	12579.6	12504.5	12458.7	13569.6	11977.7	10897.4
70°	9488.8	11627.8	12500.7	10614.9	10294.3	10151.7	9904.9	10515.7	12196.6	10205.2	8968.4
72.5°	7309.1	8895.8	10253.5	8047.1	7380.3	7428.7	7148.7	8040.7	10103.4	7889.3	6847.2
75°	5190.4	6065.9	8184.5	5782.1	4899.0	4896.5	4874.8	5787.2	7972.0	5662.5	5009.7
77.5°	3741.1	4367.1	6412.0	3869.6	3476.4	3520.9	3449.7	3933.2	6214.7	4073.2	3711.8
80°	2983.9	3233.3	4144.4	2580.6	2588.2	2692.5	2677.3	2690.0	4088.4	2949.6	2775.3
82.5°	2144.1	2454.6	3168.4	1977.4	1711.5	1822.2	1843.8	1995.2	2884.7	2085.6	1829.8
85°	1099.4	1496.4	2915.2	1712.7	1070.1	886.9	1020.5	1574.0	2505.5	1249.6	892.0
87.5°	213.8	414.8	2136.5	951.8	481.0	243.0	400.8	666.8	1457.0	226.5	110.7
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°	5983.1	5983.1	5983.1	5983.1	5983.1	5983.1	5983.1	5983.1	5983.1	5983.1	5983.1
2.5°	6470.5	6307.6	6154.9	5997.1	5875.0	5726.1	5579.8	5452.5	5329.1	5247.7	5273.1
5°	6312.7	5915.7	5559.4	5228.6	5035.2	4802.3	4594.9	4420.6	4285.7	4199.1	4251.3
7.5°	5593.8	5056.8	4587.2	4150.8	3875.9	3574.4	3332.6	3162.1	3057.7	2999.2	3084.5
10°	4858.3	4255.1	3728.3	3274.1	3003.0	2747.3	2528.4	2347.7	2207.7	2141.6	2175.9
12.5°	4331.5	3660.9	3108.6	2803.2	2570.4	2341.3	2114.8	1903.6	1725.5	1644.0	1627.5
15°	4134.2	3341.5	2777.8	2436.8	2205.2	1955.8	1711.5	1485.0	1315.7	1245.7	1230.5
17.5°	4220.8	3272.8	2581.8	2178.5	1842.5	1539.7	1264.8	1051.1	926.4	886.9	890.7
20°	4524.9	3298.2	2424.1	1912.5	1497.7	1138.9	864.0	716.4	663.0	654.0	664.2
22.5°	4942.3	3402.6	2309.5	1683.5	1193.6	828.4	642.6	572.6	558.6	557.3	567.5
25°	5493.2	3606.2	2233.2	1479.9	942.9	656.6	559.9	520.4	509.0	511.5	521.7
27.5°	6142.2	3864.5	2183.6	1304.3	774.9	585.3	523.0	488.6	477.2	479.7	487.4
30°	6735.2	4091.0	2109.8	1171.9	696.0	559.9	502.6	468.3	453.0	453.0	458.1
32.5°	7265.8	4286.9	2023.2	1072.7	623.5	502.6	455.5	428.8	417.4	421.2	423.7
35°	7736.6	4390.0	1955.8	1014.2	565.0	463.2	416.1	388.1	372.8	375.4	379.2
37.5°	8199.8	4429.5	1911.2	982.3	523.0	439.0	395.7	372.8	356.3	353.7	352.5
40°	8640.1	4420.6	1869.3	973.4	495.0	421.2	383.0	362.7	346.1	342.3	341.0
42.5°	9020.5	4391.3	1829.8	949.3	475.9	408.5	372.8	355.0	338.5	333.4	330.8
45°	9367.9	4373.5	1786.5	904.7	486.1	403.4	367.7	348.7	333.4	327.0	324.5
47.5°	9753.5	4437.1	1738.2	856.4	483.5	404.6	367.7	346.1	330.8	324.5	321.9
50°	10212.8	4652.1	1678.4	790.2	460.6	432.6	366.5	342.3	328.3	324.5	319.4
52.5°	10861.8	5000.8	1595.7	704.9	442.8	461.9	365.2	335.9	324.5	318.1	311.8
55°	11751.2	5349.5	1488.8	614.6	414.8	441.5	367.7	328.3	315.6	309.2	301.6
57.5°	12480.4	5614.1	1353.9	539.5	389.4	417.4	363.9	319.4	305.4	299.0	292.7
60°	12433.3	5639.6	1225.4	491.2	374.1	375.4	372.8	313.0	296.5	291.4	286.3
62.5°	11663.4	5325.3	1105.8	467.0	362.7	342.3	380.5	305.4	287.6	282.5	278.7
65°	10382.1	4593.6	1042.2	467.0	352.5	324.5	332.1	295.2	278.7	273.6	271.0
67.5°	8757.1	3691.4	982.3	477.2	338.5	311.8	301.6	285.0	269.8	264.7	262.1
70°	7018.9	2905.0	940.4	472.1	325.8	297.8	285.0	271.0	255.8	254.5	251.9
72.5°	5506.0	2333.7	921.3	472.1	306.7	281.2	268.5	258.3	243.0	241.8	238.0
75°	4411.6	1752.2	842.4	463.2	287.6	259.6	248.1	239.2	224.0	225.2	222.7
77.5°	3416.6	1239.4	703.7	417.4	263.4	235.4	226.5	220.1	202.3	203.6	203.6
80°	2672.2	806.7	545.9	346.1	235.4	207.4	201.0	196.0	176.9	179.4	179.4
82.5°	1831.1	479.7	395.7	278.7	202.3	176.9	175.6	168.0	147.6	148.9	151.4
85°	1000.2	315.6	263.4	206.1	159.1	143.8	141.2	137.4	118.3	118.3	119.6
87.5°	184.5	169.2	155.2	136.2	106.9	103.1	99.3	103.1	89.1	86.5	86.5
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	5983.1	5983.1	5983.1	5983.1	5983.1	5983.1	5983.1	5983.1	5983.1	5983.1	5983.1
2.5°	5213.3	5125.5	5064.4	5011.0	4882.5	4891.4	4909.2	4934.6	4854.5	4896.5	4948.6
5°	4199.1	4126.6	4071.9	3986.6	3807.2	3743.6	3702.9	3685.1	3565.5	3590.9	3646.9
7.5°	3095.9	3094.6	3075.6	2980.1	2763.8	2632.7	2546.2	2519.5	2445.7	2473.7	2558.9
10°	2179.7	2202.6	2193.7	2108.5	1915.1	1820.9	1801.8	1855.3	1856.5	1911.2	2057.6
12.5°	1575.3	1562.6	1551.1	1481.2	1336.1	1320.8	1364.1	1437.9	1455.7	1514.2	1666.9
15°	1175.8	1145.2	1138.9	1084.1	988.7	1002.7	1034.5	1072.7	1074.0	1114.7	1240.7
17.5°	881.8	881.8	892.0	856.4	787.7	781.3	764.8	754.6	739.3	755.8	824.6
20°	684.6	716.4	741.8	721.5	659.1	628.6	596.8	576.4	565.0	566.2	586.6
22.5°	586.6	612.1	645.1	635.0	582.8	543.3	523.0	509.0	500.1	500.1	511.5
25°	537.0	553.5	584.1	579.0	534.4	502.6	486.1	472.1	461.9	460.6	472.1
27.5°	497.5	507.7	528.1	525.5	479.7	459.4	449.2	440.3	433.9	432.6	444.1
30°	461.9	467.0	477.2	473.4	439.0	418.6	414.8	411.0	407.2	408.5	425.0
32.5°	430.1	433.9	440.3	435.2	402.1	384.3	377.9	372.8	369.0	372.8	391.9
35°	394.5	405.9	413.6	411.0	375.4	353.7	339.7	327.0	321.9	325.8	347.4
37.5°	363.9	383.0	393.2	390.6	353.7	328.3	310.5	307.9	307.9	313.0	334.7
40°	352.5	366.5	375.4	371.6	334.7	309.2	299.0	295.2	296.5	301.6	324.5
42.5°	342.3	355.0	357.6	349.9	313.0	296.5	290.1	285.0	287.6	293.9	316.8
45°	333.4	343.6	342.3	330.8	295.2	283.8	283.8	279.9	281.2	286.3	310.5
47.5°	327.0	332.1	329.6	318.1	282.5	273.6	277.4	277.4	279.9	283.8	307.9
50°	316.8	320.7	318.1	307.9	272.3	264.7	268.5	273.6	276.1	279.9	301.6
52.5°	306.7	309.2	307.9	297.8	262.1	257.0	257.0	262.1	267.2	272.3	291.4
55°	296.5	299.0	300.3	292.7	254.5	249.4	248.1	248.1	253.2	260.9	281.2
57.5°	288.9	288.9	291.4	286.3	246.9	240.5	234.1	235.4	241.8	248.1	268.5
60°	279.9	281.2	285.0	279.9	236.7	226.5	221.4	227.8	230.3	236.7	258.3
62.5°	272.3	272.3	274.9	271.0	227.8	217.6	213.8	220.1	220.1	226.5	248.1
65°	265.9	264.7	264.7	263.4	218.9	208.7	206.1	208.7	210.0	216.3	238.0
67.5°	260.9	254.5	254.5	257.0	210.0	199.8	198.5	198.5	199.8	207.4	226.5
70°	249.4	244.3	243.0	251.9	201.0	188.3	188.3	185.8	188.3	192.1	212.5
72.5°	236.7	232.9	231.6	244.3	192.1	175.6	173.1	171.8	173.1	176.9	196.0
75°	220.1	217.6	220.1	239.2	183.2	161.6	157.8	156.5	156.5	157.8	178.1
77.5°	201.0	198.5	217.6	222.7	178.1	145.1	141.2	138.7	136.2	136.2	159.1
80°	178.1	176.9	210.0	188.3	170.5	127.2	120.9	117.1	114.5	113.2	136.2
82.5°	155.2	152.7	179.4	147.6	141.2	104.3	95.4	87.8	84.0	84.0	104.3
85°	127.2	126.0	141.2	108.2	98.0	76.3	63.6	57.3	52.2	52.2	67.4
87.5°	92.9	90.3	87.8	64.9	49.6	34.4	24.2	22.9	20.4	19.1	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):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	5983.1	5983.1	5983.1	5983.1	5983.1	5983.1	5983.1	5983.1
2.5°	5026.2	5131.9	5331.6	5495.8	5714.7	5890.3	6090.0	6176.6
5°	3750.0	3916.7	4222.0	4482.9	4844.3	5178.9	5560.7	5769.4
7.5°	2690.0	2936.9	3168.4	3494.2	3945.9	4395.1	4888.8	5164.9
10°	2225.5	2452.0	2650.6	2882.1	3230.8	3736.0	4325.1	4636.9
12.5°	1843.8	2088.1	2298.1	2546.2	2838.9	3295.7	3967.6	4330.2
15°	1413.7	1679.7	1931.6	2230.6	2589.5	3111.2	3860.7	4265.3
17.5°	968.3	1253.4	1563.9	1929.1	2361.7	3033.6	3962.5	4461.3
20°	657.9	866.6	1203.8	1636.4	2156.8	2996.7	4186.4	4864.6
22.5°	540.8	635.0	888.2	1361.5	1988.9	3037.4	4550.3	5395.3
25°	496.3	547.2	691.0	1119.8	1860.3	3145.5	5042.8	5994.6
27.5°	468.3	511.5	605.7	946.7	1742.0	3293.1	5642.1	6727.5
30°	451.7	492.4	571.3	857.6	1633.8	3420.4	6157.5	7279.8
32.5°	414.8	445.4	510.3	806.7	1556.2	3523.5	6611.7	7796.4
35°	370.3	407.2	460.6	773.7	1553.7	3571.8	7039.3	8367.7
37.5°	353.7	389.4	428.8	755.8	1569.0	3612.5	7562.3	9015.4
40°	343.6	375.4	407.2	753.3	1581.7	3644.3	8073.8	9689.8
42.5°	334.7	366.5	403.4	735.5	1576.6	3687.6	8526.8	10268.8
45°	332.1	363.9	412.3	708.8	1575.3	3755.1	8886.9	10732.0
47.5°	329.6	377.9	409.7	679.5	1570.2	3897.6	9292.8	11163.4
50°	327.0	403.4	391.9	638.8	1532.1	4140.6	9838.7	11657.1
52.5°	325.8	407.2	372.8	582.8	1463.3	4500.7	10637.8	12344.2
55°	320.7	386.8	339.7	509.0	1364.1	4888.8	11494.2	13152.2
57.5°	309.2	344.8	320.7	436.5	1221.6	5159.9	12126.6	13777.0
60°	337.2	296.5	307.9	399.6	1051.1	5208.2	12154.6	13952.6
62.5°	321.9	269.8	295.2	386.8	931.4	4892.6	11598.5	13742.7
65°	257.0	255.8	283.8	399.6	913.6	4186.4	10659.5	13120.4
67.5°	234.1	245.6	272.3	414.8	925.1	3298.2	9277.6	11667.3
70°	218.9	232.9	257.0	428.8	945.4	2598.4	7469.4	9488.8
72.5°	203.6	215.0	241.8	442.8	931.4	2049.9	5978.1	7309.1
75°	184.5	194.7	220.1	405.9	799.1	1506.6	4750.1	5190.4
77.5°	162.9	171.8	193.4	320.7	600.6	1048.5	3557.8	3741.1
80°	140.0	143.8	160.3	234.1	391.9	627.3	2707.8	2983.9
82.5°	110.7	112.0	122.2	171.8	244.3	400.8	1878.2	2144.1
85°	71.3	73.8	78.9	120.9	164.1	257.0	959.4	1099.4
87.5°	24.2	28.0	28.0	58.5	80.2	142.5	293.9	213.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)