

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: P270690

Luminaire Tested: **NAV-AF-06-D-UNV-SLL-7027-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270690
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-06-D-UNV-SLL-7027-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 2700K, 615mA 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: 18212.4 lumens
Efficiency: N/A
Efficacy: 94.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G3

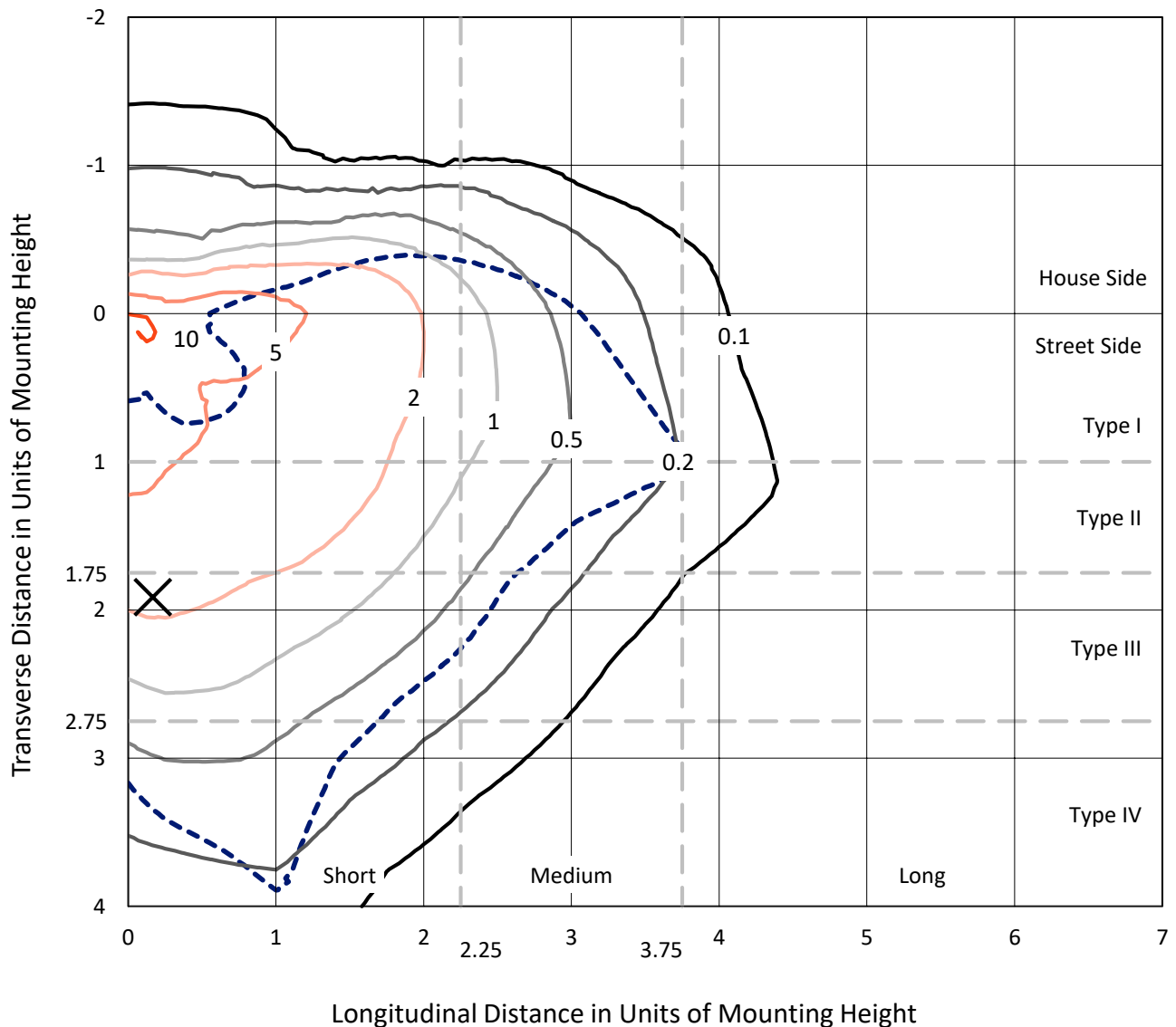
Input Watts (W): 193
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

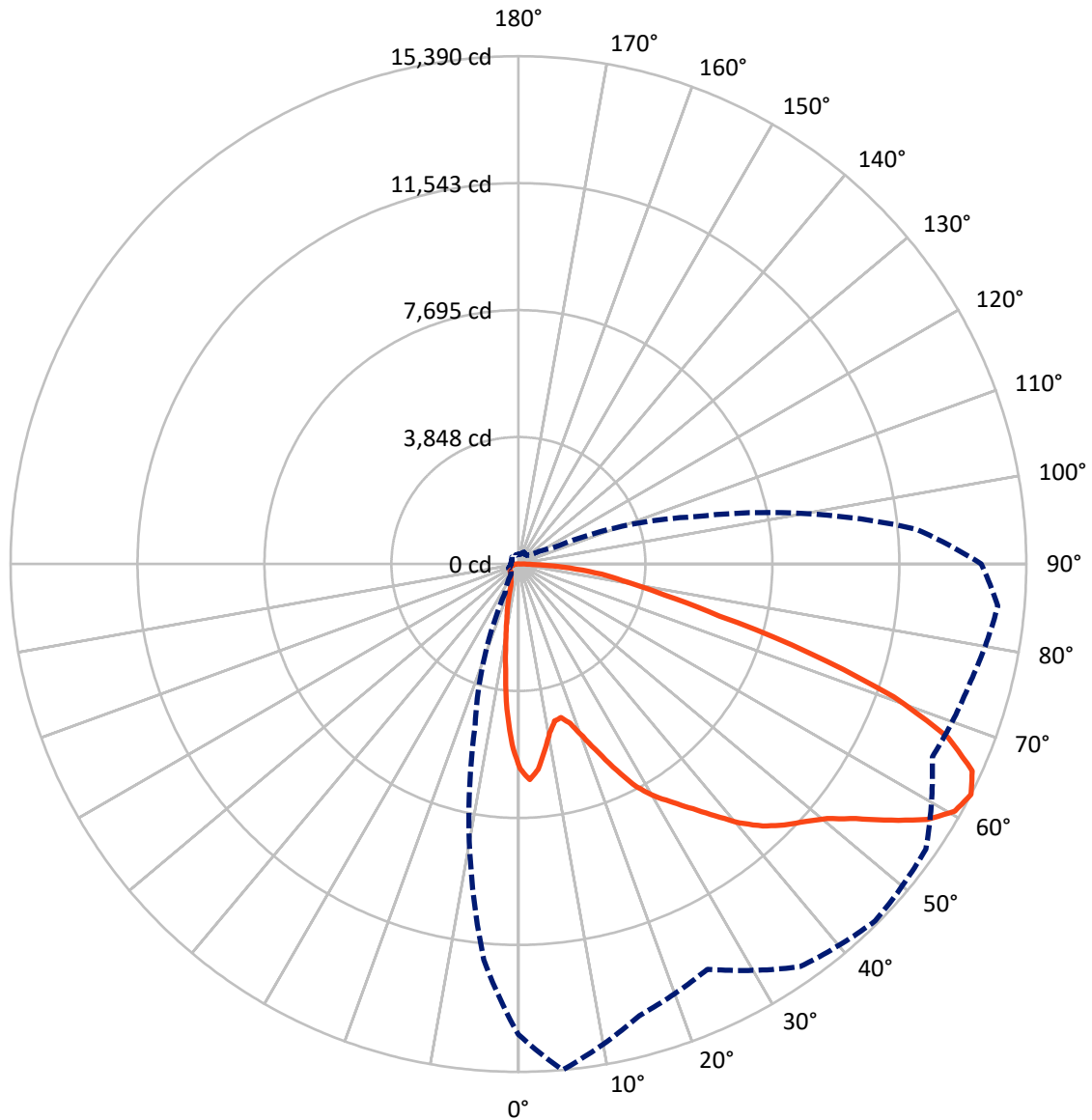
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 11.4 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	3226.3	0.0	3226.3
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	14986.0	0.0	14986.0
	% Fixture	82.3	0.0	82.3
Total	Lumens	18212.4	0.0	18212.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	451.5	2.5
10°-20°	824.7	4.5
20°-30°	1186.2	6.5
30°-40°	1816.8	10.0
40°-50°	2656.2	14.6
50°-60°	3864.8	21.2
60°-70°	4477.9	24.6
70°-80°	2334.2	12.8
80°-90°	600.0	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°	18212.4	100.0
0°-180°	18212.4	100.0



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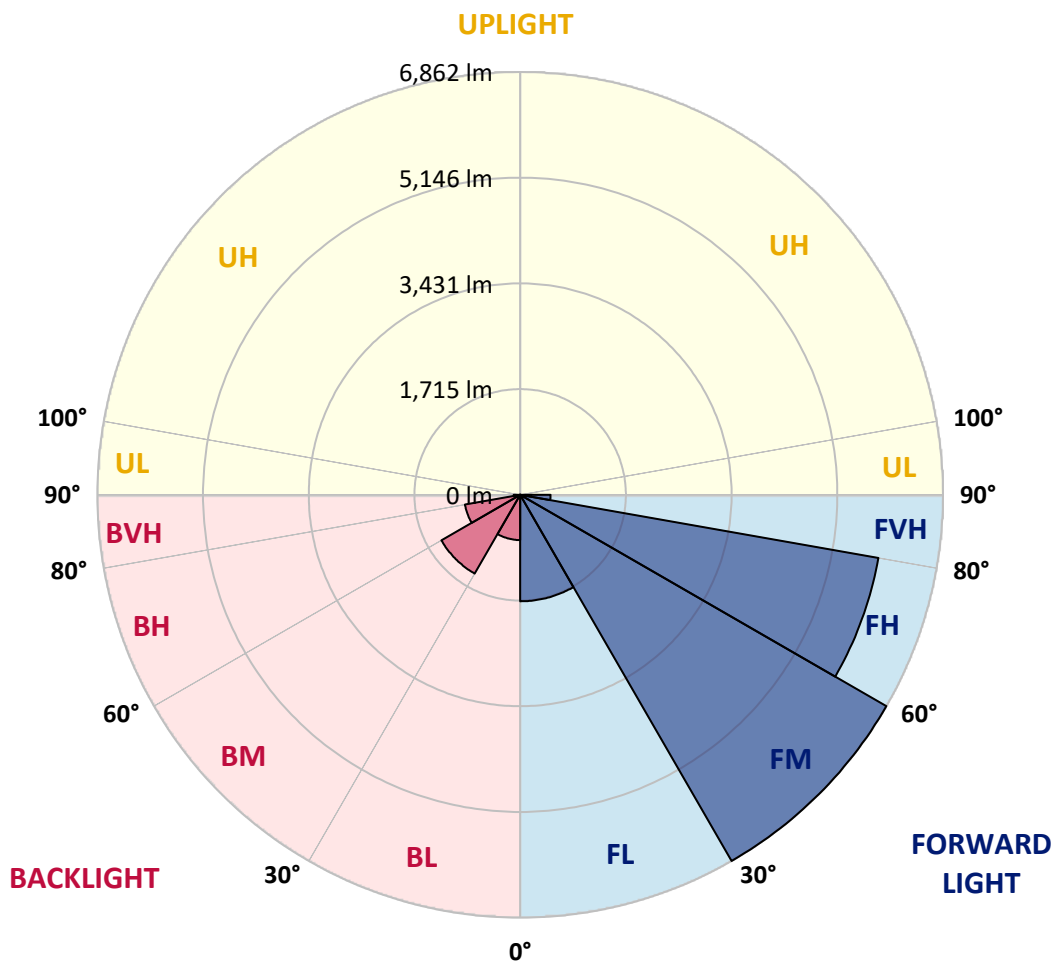
CATALOG NUMBER: NAV-AF-06-D-UNV-SLL-7027-600

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1728.4	9.5			
FM	(30°-60°)	6861.6	37.7			
FH	(60°-80°)	5902.4	32.4			G3/7500
FVH	(80°-90°)	493.6	2.7			G3/500
BL	(0°-30°)	734.0	4.0	B2/1000		
BM	(30°-60°)	1476.2	8.1	B2/2500		
BH	(60°-80°)	909.7	5.0	B2/1000		G2/1000
BVH	(80°-90°)	106.4	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°	6208.9	6208.9	6208.9	6208.9	6208.9	6208.9	6208.9	6208.9	6208.9	6208.9	6208.9
2.5°	6409.6	6545.7	6701.4	6904.8	7043.5	7098.9	7145.2	7067.2	6992.0	6850.7	6800.6
5°	5987.2	6248.6	6677.7	7085.8	7445.0	7651.0	7714.4	7570.3	7314.2	6944.4	6749.1
7.5°	5359.8	5704.5	6308.0	6908.9	7423.9	7767.1	7792.3	7507.0	7002.6	6396.6	6079.5
10°	4812.0	5201.5	5900.0	6572.1	7117.5	7468.7	7400.1	7000.0	6391.3	5701.9	5344.0
12.5°	4493.6	4883.1	5595.0	6277.6	6791.2	6924.7	6784.7	6447.9	5871.0	5180.3	4819.8
15°	4426.3	4827.8	5486.7	6062.4	6380.7	6294.9	6156.2	5985.8	5575.2	5009.9	4661.3
17.5°	4629.7	5078.6	5630.5	5946.2	5932.9	5727.0	5610.8	5643.8	5573.9	5194.8	4830.4
20°	5048.3	5579.2	5996.4	5914.5	5576.5	5287.2	5220.0	5478.8	5802.2	5658.3	5258.1
22.5°	5598.9	6203.6	6495.6	6005.6	5390.3	5078.6	5065.5	5469.5	6218.2	6359.6	5872.2
25°	6220.9	6926.0	6998.6	6166.8	5370.4	5060.2	5048.3	5612.2	6718.7	7054.1	6560.2
27.5°	6981.4	7654.8	7418.6	6382.0	5457.7	5114.3	5122.1	5855.1	7240.2	7740.8	7335.3
30°	7554.6	8172.5	7677.4	6593.2	5597.6	5209.4	5229.2	6117.8	7521.5	8217.4	7954.6
32.5°	8090.7	8614.8	7925.6	6801.8	5802.2	5350.7	5419.4	6445.2	7859.6	8626.9	8539.6
35°	8683.6	9110.2	8201.5	7025.0	6095.4	5598.9	5697.9	6757.1	8195.0	9036.1	9119.4
37.5°	9355.7	9676.6	8501.3	7340.6	6517.9	6058.3	6113.9	7075.2	8428.6	9489.1	9741.3
40°	10055.5	10311.7	8828.8	7761.9	7132.1	6679.1	6705.5	7483.2	8612.3	9957.8	10344.7
42.5°	10656.4	10855.7	9157.6	8284.8	7837.2	7311.6	7334.0	7923.1	8787.8	10361.9	10828.0
45°	11137.0	11283.6	9468.0	8835.4	8589.9	8101.3	8096.0	8370.5	9022.9	10702.5	11199.1
47.5°	11584.7	11662.5	9814.0	9371.6	9370.2	9117.9	8929.2	8898.8	9335.8	10989.1	11522.6
50°	12097.0	12126.1	10270.9	9912.9	10323.6	10283.9	9935.4	9569.6	9741.3	11311.4	11861.9
52.5°	12810.1	12811.4	10837.3	10441.1	11376.0	11501.4	11096.1	10328.9	10340.7	11938.6	12448.4
55°	13648.6	13706.7	11575.4	11073.6	12477.4	12691.3	12309.7	11230.8	11201.8	12950.1	13399.1
57.5°	14297.0	14604.6	12435.1	11864.6	13505.9	13784.6	13476.9	12165.7	12259.4	13993.3	14183.3
60°	14479.2	15198.9	13292.1	12752.0	14376.2	14794.8	14481.8	13175.9	13294.7	14670.7	14409.3
62.5°	14261.3	15390.3	14165.0	13546.9	14892.6	15294.0	15069.4	13837.4	14138.6	14583.5	14027.7
65°	13615.6	15113.1	14923.0	13885.0	14595.4	14738.0	14678.7	13871.7	14596.6	13759.6	12972.6
67.5°	12107.5	14043.5	14584.8	13162.7	13207.6	13054.3	12976.5	12928.9	14081.7	12429.8	11308.8
70°	9847.0	12066.7	12972.6	11015.6	10682.9	10535.0	10278.8	10912.6	12656.8	10590.4	9306.8
72.5°	7584.8	9231.5	10640.6	8350.9	7658.9	7709.1	7418.6	8344.1	10484.7	8187.1	7105.6
75°	5386.2	6294.9	8493.5	6000.3	5083.9	5081.3	5058.9	6005.6	8272.9	5876.3	5198.9
77.5°	3882.3	4531.9	6653.9	4015.7	3607.7	3653.8	3579.8	4081.7	6449.3	4227.0	3851.9
80°	3096.5	3355.3	4300.8	2677.9	2685.9	2794.2	2778.3	2791.6	4242.8	3061.0	2880.0
82.5°	2225.0	2547.2	3288.1	2052.1	1776.0	1890.9	1913.4	2070.6	2993.5	2164.2	1898.8
85°	1140.8	1552.9	3025.2	1777.3	1110.6	920.4	1059.0	1633.5	2600.1	1296.8	925.7
87.5°	221.8	430.5	2217.0	987.7	499.2	252.2	415.9	692.0	1511.9	235.0	115.0
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°	6208.9	6208.9	6208.9	6208.9	6208.9	6208.9	6208.9	6208.9	6208.9	6208.9	6208.9
2.5°	6714.7	6545.7	6387.2	6223.5	6096.7	5942.2	5790.4	5658.3	5530.2	5445.7	5472.1
5°	6551.0	6138.9	5769.3	5425.9	5225.3	4983.5	4768.4	4587.4	4447.4	4357.6	4411.8
7.5°	5804.8	5247.7	4760.4	4307.5	4022.3	3709.3	3458.4	3281.4	3173.2	3112.4	3200.9
10°	5041.6	4415.7	3869.0	3397.6	3116.4	2851.0	2623.8	2436.4	2291.0	2222.3	2258.0
12.5°	4494.9	3799.0	3226.0	2909.0	2667.3	2429.7	2194.6	1975.5	1790.6	1706.2	1689.0
15°	4290.2	3467.5	2882.7	2528.8	2288.4	2029.6	1776.0	1541.0	1365.5	1292.8	1276.9
17.5°	4380.0	3396.3	2679.3	2260.7	1912.1	1597.7	1312.6	1090.7	961.4	920.4	924.4
20°	4695.7	3422.7	2515.6	1984.6	1554.2	1181.8	896.6	743.4	688.0	678.7	689.3
22.5°	5128.9	3531.0	2396.7	1747.1	1238.7	859.7	666.8	594.1	579.6	578.4	589.0
25°	5700.6	3742.2	2317.4	1535.7	978.4	681.4	581.1	540.2	528.3	530.9	541.4
27.5°	6374.1	4010.4	2266.0	1353.4	804.3	607.4	542.8	507.1	495.1	497.8	505.7
30°	6989.4	4245.4	2189.3	1216.1	722.2	581.1	521.6	486.0	470.2	470.2	475.4
32.5°	7540.1	4448.8	2099.6	1113.2	647.0	521.6	472.8	445.0	433.2	437.0	439.7
35°	8028.6	4555.8	2029.6	1052.5	586.4	480.7	431.7	402.7	386.9	389.5	393.5
37.5°	8509.3	4596.6	1983.4	1019.4	542.8	455.6	410.6	386.9	369.7	367.0	365.8
40°	8966.2	4587.4	1939.8	1010.1	513.7	437.0	397.5	376.3	359.2	355.2	353.9
42.5°	9361.0	4557.0	1898.8	985.1	493.9	423.9	386.9	368.5	351.2	345.9	343.3
45°	9721.5	4538.5	1854.0	938.9	504.4	418.6	381.6	361.7	345.9	339.4	336.8
47.5°	10121.7	4604.5	1803.7	888.8	501.9	419.9	381.6	359.2	343.3	336.8	334.1
50°	10598.3	4827.8	1741.8	820.1	478.0	449.0	380.3	355.2	340.6	336.8	331.5
52.5°	11271.8	5189.6	1655.8	731.6	459.6	479.3	378.9	348.6	336.8	330.1	323.5
55°	12194.8	5551.3	1544.9	637.7	430.5	458.2	381.6	340.6	327.5	320.9	313.0
57.5°	12951.5	5826.0	1404.9	560.0	404.1	433.2	377.6	331.5	316.9	310.4	303.6
60°	12902.5	5852.4	1271.6	509.7	388.2	389.5	386.9	324.8	307.7	302.4	297.1
62.5°	12103.7	5526.3	1147.6	484.6	376.3	355.2	394.9	316.9	298.4	293.1	289.2
65°	10773.9	4766.9	1081.5	484.6	365.8	336.8	344.7	306.3	289.2	284.0	281.3
67.5°	9087.7	3830.7	1019.4	495.1	351.2	323.5	313.0	295.8	279.9	274.6	272.0
70°	7283.8	3014.7	975.9	489.8	338.0	308.9	295.8	281.3	265.4	264.1	261.4
72.5°	5713.8	2421.8	956.1	489.8	318.2	291.8	278.7	268.1	252.2	250.8	246.9
75°	4578.1	1818.3	874.2	480.7	298.4	269.4	257.5	248.2	232.4	233.6	231.0
77.5°	3545.5	1286.2	730.2	433.2	273.4	244.2	235.0	228.4	209.9	211.3	211.3
80°	2773.1	837.2	566.6	359.2	244.2	215.2	208.6	203.3	183.6	186.2	186.2
82.5°	1900.2	497.8	410.6	289.2	209.9	183.6	182.3	174.4	153.3	154.5	157.2
85°	1037.9	327.5	273.4	213.9	165.1	149.2	146.6	142.7	122.8	122.8	124.1
87.5°	191.5	175.6	161.1	141.4	110.9	107.0	102.9	107.0	92.4	89.8	89.8
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°	6208.9	6208.9	6208.9	6208.9	6208.9	6208.9	6208.9	6208.9	6208.9	6208.9	6208.9
2.5°	5410.0	5319.0	5255.5	5200.1	5066.7	5076.0	5094.5	5120.9	5037.6	5081.3	5135.4
5°	4357.6	4282.4	4225.5	4137.1	3950.9	3884.9	3842.6	3824.2	3699.9	3726.3	3784.5
7.5°	3212.8	3211.4	3191.7	3092.5	2868.1	2732.0	2642.4	2614.5	2538.0	2567.0	2655.5
10°	2262.0	2285.7	2276.6	2188.0	1987.3	1889.7	1869.8	1925.2	1926.7	1983.4	2135.2
12.5°	1634.7	1621.6	1609.8	1537.1	1386.5	1370.6	1415.5	1492.2	1510.6	1571.3	1729.9
15°	1220.2	1188.5	1181.8	1125.0	1026.0	1040.5	1073.6	1113.2	1114.4	1156.7	1287.5
17.5°	915.2	915.2	925.7	888.8	817.4	810.8	793.7	783.1	767.2	784.4	855.6
20°	710.4	743.4	769.8	748.6	684.0	652.3	619.3	598.2	586.4	587.6	608.7
22.5°	608.7	635.1	669.4	658.9	604.7	563.9	542.8	528.3	519.0	519.0	530.9
25°	557.3	574.5	606.0	600.8	554.7	521.6	504.4	489.8	479.3	478.0	489.8
27.5°	516.3	526.9	548.0	545.5	497.8	476.7	466.1	456.9	450.3	449.0	460.8
30°	479.3	484.6	495.1	491.3	455.6	434.4	430.5	426.5	422.6	423.9	441.1
32.5°	446.3	450.3	456.9	451.6	417.3	398.8	392.2	386.9	382.9	386.9	406.8
35°	409.4	421.2	429.2	426.5	389.5	367.0	352.6	339.4	334.1	338.0	360.5
37.5°	377.6	397.5	408.0	405.3	367.0	340.6	322.2	319.5	319.5	324.8	347.3
40°	365.8	380.3	389.5	385.6	347.3	320.9	310.4	306.3	307.7	313.0	336.8
42.5°	355.2	368.5	371.1	363.2	324.8	307.7	301.1	295.8	298.4	305.1	328.8
45°	345.9	356.5	355.2	343.3	306.3	294.5	294.5	290.5	291.8	297.1	322.2
47.5°	339.4	344.7	342.1	330.1	293.1	284.0	287.8	287.8	290.5	294.5	319.5
50°	328.8	332.7	330.1	319.5	282.5	274.6	278.7	284.0	286.6	290.5	313.0
52.5°	318.2	320.9	319.5	308.9	272.0	266.7	266.7	272.0	277.2	282.5	302.4
55°	307.7	310.4	311.6	303.6	264.1	258.8	257.5	257.5	262.8	270.7	291.8
57.5°	299.8	299.8	302.4	297.1	256.1	249.5	243.0	244.2	250.8	257.5	278.7
60°	290.5	291.8	295.8	290.5	245.5	235.0	229.7	236.3	238.9	245.5	268.1
62.5°	282.5	282.5	285.2	281.3	236.3	225.8	221.8	228.4	228.4	235.0	257.5
65°	276.0	274.6	274.6	273.4	227.1	216.5	213.9	216.5	217.8	224.4	246.9
67.5°	270.7	264.1	264.1	266.7	217.8	207.2	206.0	206.0	207.2	215.2	235.0
70°	258.8	253.5	252.2	261.4	208.6	195.4	195.4	192.7	195.4	199.5	220.5
72.5°	245.5	241.6	240.3	253.5	199.5	182.3	179.7	178.3	179.7	183.6	203.3
75°	228.4	225.8	228.4	248.2	190.1	167.8	163.8	162.5	162.5	163.8	185.0
77.5°	208.6	206.0	225.8	231.0	185.0	150.6	146.6	143.9	141.4	141.4	165.1
80°	185.0	183.6	217.8	195.4	177.0	132.1	125.5	121.5	118.8	117.5	141.4
82.5°	161.1	158.5	186.2	153.3	146.6	108.2	99.1	91.1	87.1	87.1	108.2
85°	132.1	130.8	146.6	112.3	101.7	79.2	66.0	59.4	54.2	54.2	70.0
87.5°	96.4	93.8	91.1	67.4	51.6	35.7	25.2	23.7	21.1	19.9	29.0
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°	6208.9	6208.9	6208.9	6208.9	6208.9	6208.9	6208.9	6208.9
2.5°	5216.0	5325.5	5532.9	5703.2	5930.3	6112.5	6319.8	6409.6
5°	3891.5	4064.6	4381.5	4652.1	5027.2	5374.4	5770.5	5987.2
7.5°	2791.6	3047.7	3288.1	3626.1	4094.8	4561.0	5073.4	5359.8
10°	2309.5	2544.5	2750.6	2990.8	3352.7	3876.9	4488.3	4812.0
12.5°	1913.4	2166.9	2384.8	2642.4	2946.0	3420.0	4117.3	4493.6
15°	1467.0	1743.0	2004.5	2314.8	2687.2	3228.6	4006.4	4426.3
17.5°	1004.9	1300.7	1622.9	2001.9	2450.8	3148.1	4112.0	4629.7
20°	682.7	899.3	1249.3	1698.2	2238.2	3109.8	4344.5	5048.3
22.5°	561.3	658.9	921.8	1412.9	2063.9	3152.1	4722.1	5598.9
25°	515.0	567.8	717.0	1162.0	1930.5	3264.3	5233.2	6220.9
27.5°	486.0	530.9	628.5	982.4	1807.7	3417.4	5855.1	6981.4
30°	468.7	511.0	592.9	890.0	1695.6	3549.6	6389.9	7554.6
32.5°	430.5	462.2	529.6	837.2	1615.0	3656.5	6861.3	8090.7
35°	384.2	422.6	478.0	802.8	1612.3	3706.6	7304.9	8683.6
37.5°	367.0	404.1	445.0	784.4	1628.2	3748.8	7847.8	9355.7
40°	356.5	389.5	422.6	781.7	1641.4	3781.9	8378.5	10055.5
42.5°	347.3	380.3	418.6	763.2	1636.2	3826.8	8848.7	10656.4
45°	344.7	377.6	427.9	735.5	1634.7	3896.8	9222.3	11137.0
47.5°	342.1	392.2	425.2	705.1	1629.4	4044.7	9643.6	11584.7
50°	339.4	418.6	406.8	662.9	1589.9	4297.0	10210.0	12097.0
52.5°	338.0	422.6	386.9	604.7	1518.6	4670.6	11039.4	12810.1
55°	332.7	401.5	352.6	528.3	1415.5	5073.4	11928.1	13648.6
57.5°	320.9	357.9	332.7	452.9	1267.7	5354.5	12584.3	14297.0
60°	349.9	307.7	319.5	414.7	1090.7	5404.8	12613.3	14479.2
62.5°	334.1	279.9	306.3	401.5	966.5	5077.3	12036.3	14261.3
65°	266.7	265.4	294.5	414.7	948.2	4344.5	11061.8	13615.6
67.5°	243.0	254.8	282.5	430.5	960.0	3422.7	9627.8	12107.5
70°	227.1	241.6	266.7	445.0	981.0	2696.4	7751.3	9847.0
72.5°	211.3	223.1	250.8	459.6	966.5	2127.4	6203.6	7584.8
75°	191.5	201.9	228.4	421.2	829.2	1563.5	4929.4	5386.2
77.5°	169.1	178.3	200.7	332.7	623.2	1088.0	3692.2	3882.3
80°	145.3	149.2	166.4	243.0	406.8	651.0	2810.0	3096.5
82.5°	115.0	116.2	126.8	178.3	253.5	415.9	1949.1	2225.0
85°	73.9	76.5	81.8	125.5	170.4	266.7	995.6	1140.8
87.5°	25.2	29.0	29.0	60.7	83.3	148.0	305.1	221.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)