

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: P195725

Luminaire Tested: **NAV-AF-05-D-UNV-SLL-7050-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195725
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-05-D-UNV-SLL-7050-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5000K, 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: 17498 lumens
Efficiency: N/A
Efficacy: 108.0 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

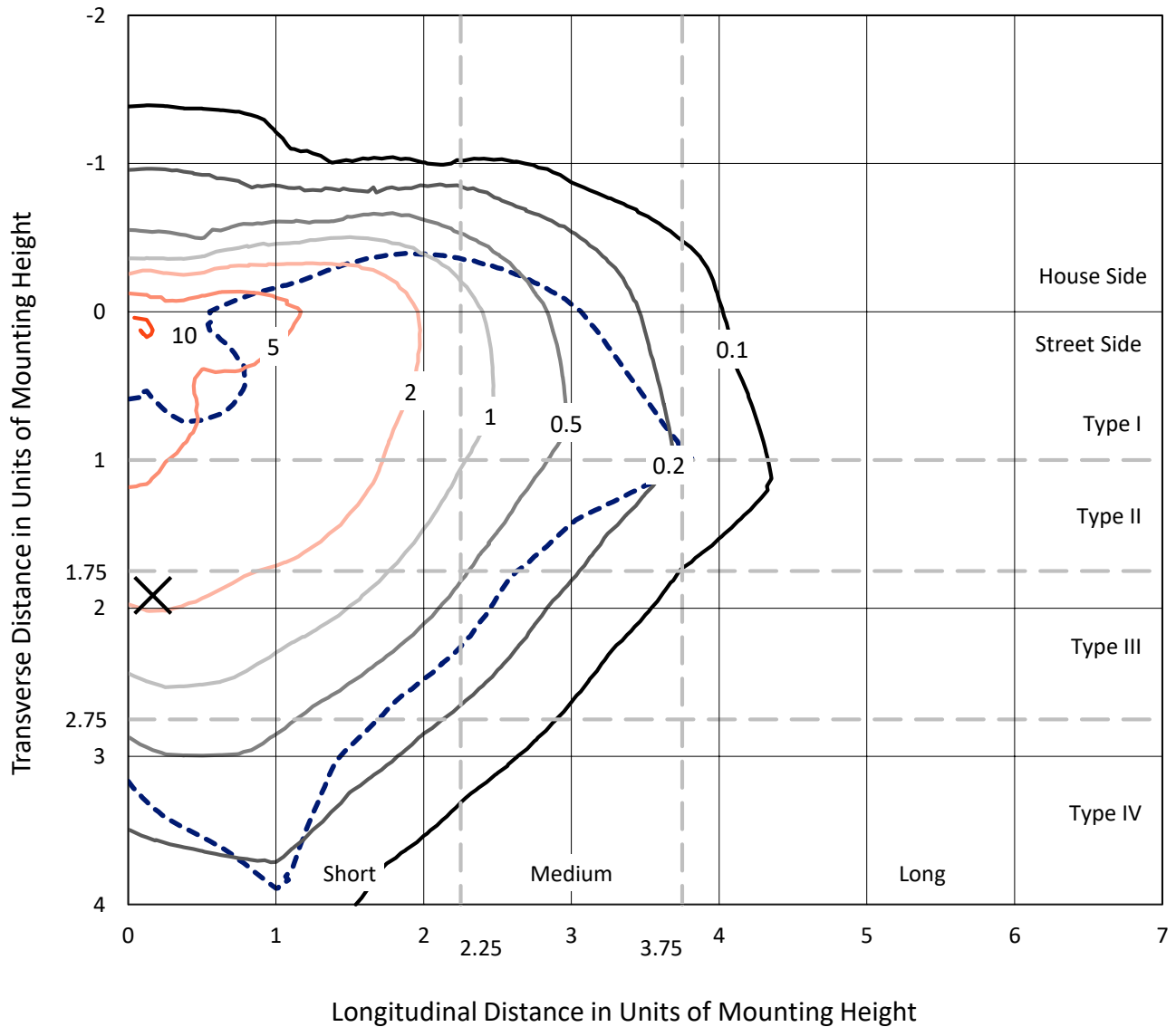
Input Watts (W): 162
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

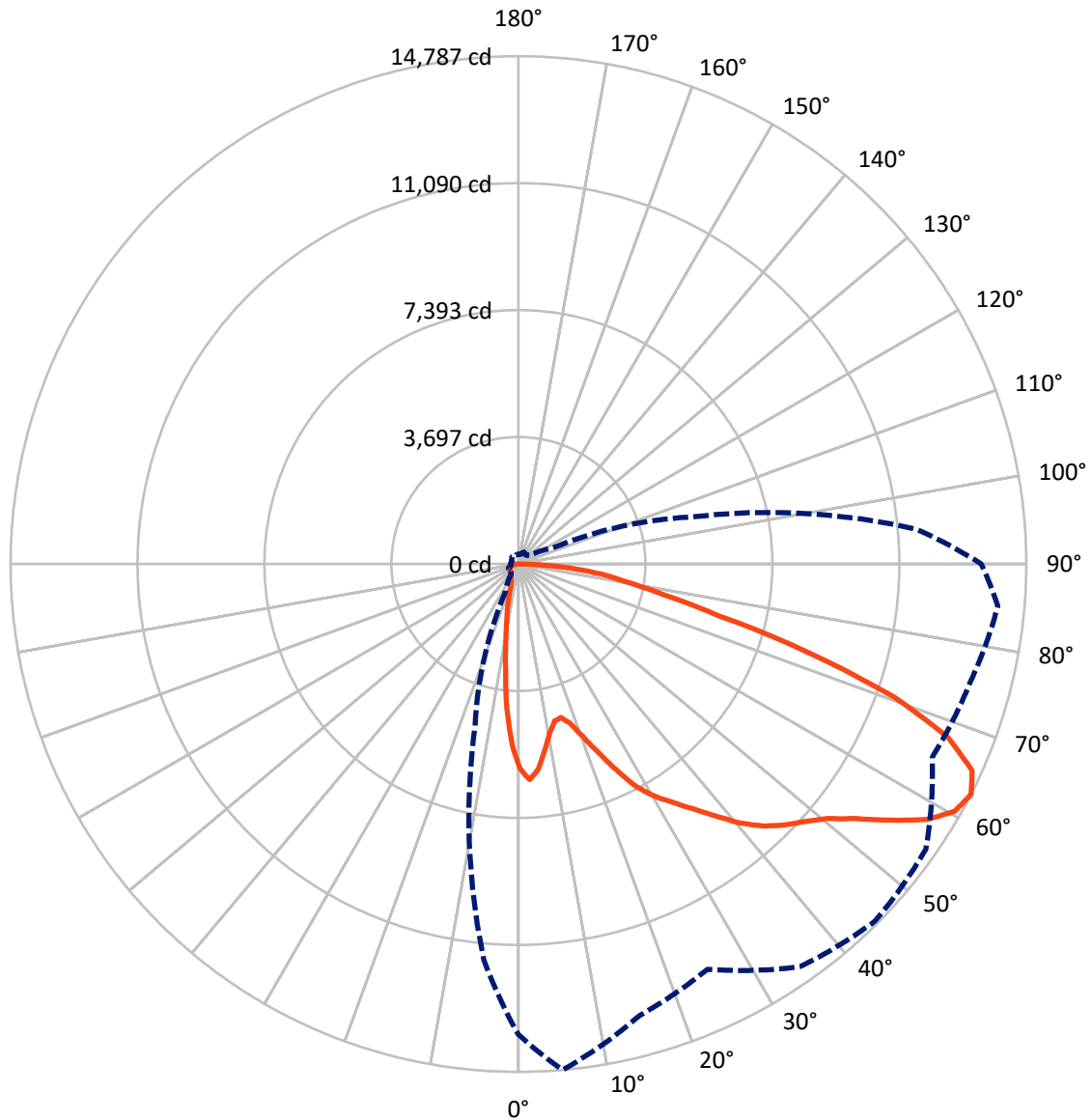
✕ Max cd
 - - - 1/2 Max cd



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	3099.8	0.0	3099.8
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	14398.2	0.0	14398.2
	% Fixture	82.3	0.0	82.3
Total	Lumens	17498.0	0.0	17498.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	433.8	2.5
10°-20°	792.4	4.5
20°-30°	1139.7	6.5
30°-40°	1745.5	10.0
40°-50°	2552.0	14.6
50°-60°	3713.2	21.2
60°-70°	4302.2	24.6
70°-80°	2242.7	12.8
80°-90°	576.5	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°	17498.0	100.0
0°-180°	17498.0	100.0



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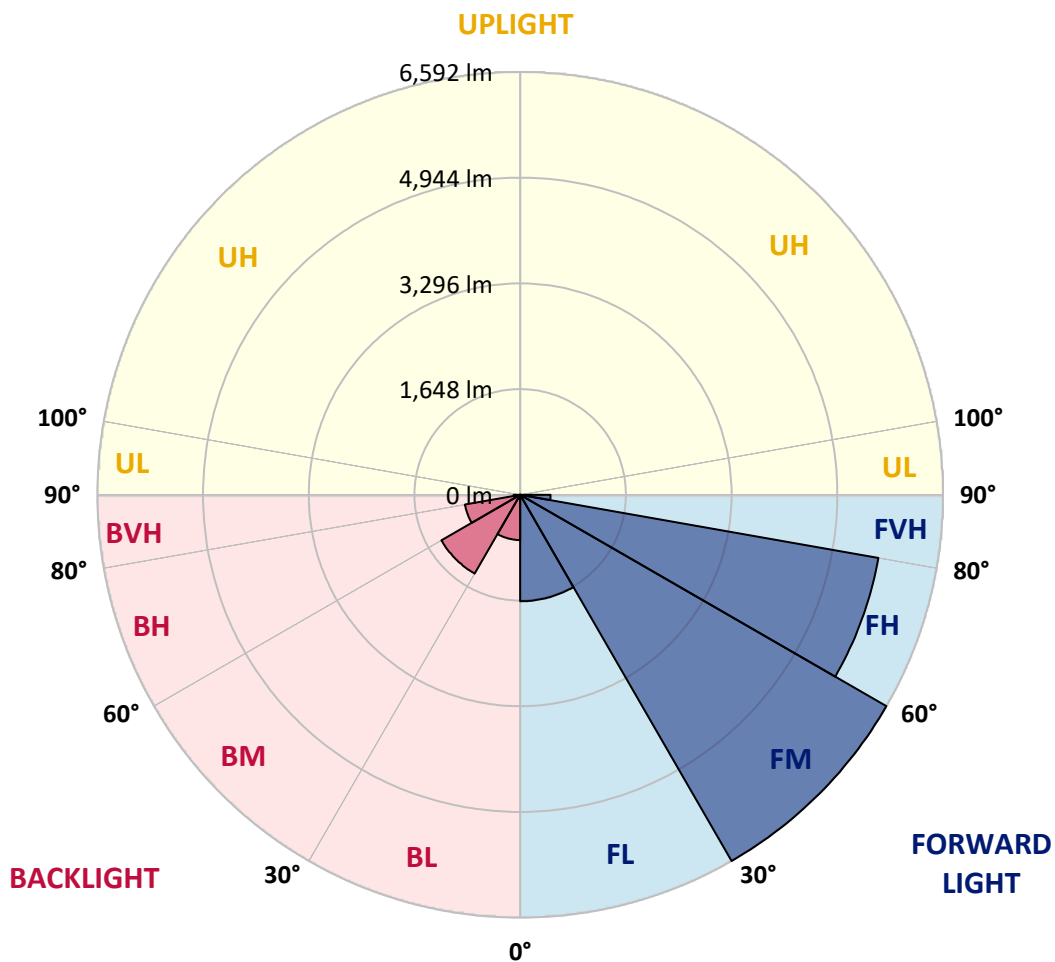
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1660.6	9.5			
FM (30°-60°)	6592.4	37.7			
FH (60°-80°)	5670.9	32.4			G3/7500
FVH (80°-90°)	474.3	2.7			G3/500
BL (0°-30°)	705.3	4.0	B2/1000		
BM (30°-60°)	1418.3	8.1	B2/2500		
BH (60°-80°)	874.0	5.0	B2/1000		G2/1000
BVH (80°-90°)	102.2	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°	5965.4	5965.4	5965.4	5965.4	5965.4	5965.4	5965.4	5965.4	5965.4	5965.4	5965.4
2.5°	6158.3	6288.9	6438.6	6634.0	6767.2	6820.5	6864.9	6790.1	6717.8	6582.0	6533.8
5°	5752.3	6003.5	6415.8	6807.8	7152.9	7350.8	7411.7	7273.4	7027.3	6672.1	6484.3
7.5°	5149.6	5480.8	6060.6	6637.8	7132.6	7462.5	7486.6	7212.5	6727.9	6145.6	5841.1
10°	4623.1	4997.4	5668.5	6314.3	6838.3	7175.8	7109.8	6725.4	6140.5	5478.2	5134.4
12.5°	4317.4	4691.6	5375.5	6031.4	6524.9	6653.1	6518.6	6195.1	5640.6	4977.1	4630.7
15°	4252.7	4638.4	5271.4	5824.6	6130.3	6047.9	5914.7	5751.0	5356.4	4813.4	4478.5
17.5°	4448.1	4879.4	5409.7	5712.9	5700.3	5502.3	5390.7	5422.4	5355.2	4991.1	4640.9
20°	4850.2	5360.2	5761.2	5682.5	5357.7	5079.9	5015.2	5263.8	5574.7	5436.4	5052.0
22.5°	5379.3	5960.3	6240.7	5770.0	5178.8	4879.4	4866.7	5254.9	5974.3	6110.0	5641.9
25°	5976.8	6654.3	6724.1	5924.8	5159.8	4861.6	4850.2	5392.0	6455.1	6777.4	6302.9
27.5°	6707.6	7354.6	7127.5	6131.6	5243.5	4913.7	4921.3	5625.4	6956.3	7437.1	7047.6
30°	7258.2	7852.0	7376.2	6334.6	5378.0	5005.0	5024.0	5877.9	7226.5	7895.1	7642.6
32.5°	7773.3	8277.0	7614.7	6535.1	5574.7	5140.8	5206.7	6192.5	7551.3	8288.4	8204.7
35°	8343.0	8752.7	7879.9	6749.5	5856.3	5379.3	5474.4	6491.9	7873.5	8681.7	8761.6
37.5°	8988.7	9297.0	8167.9	7052.7	6262.3	5820.8	5874.1	6797.7	8098.1	9116.9	9359.2
40°	9661.1	9907.3	8482.5	7457.4	6852.2	6417.1	6442.4	7189.7	8274.4	9567.2	9939.0
42.5°	10238.4	10430.0	8798.4	7959.8	7529.7	7024.8	7046.3	7612.2	8443.2	9955.5	10403.3
45°	10700.2	10841.0	9096.6	8488.9	8252.9	7783.5	7778.4	8042.3	8669.0	10282.8	10759.8
47.5°	11130.3	11205.1	9429.0	9003.9	9002.7	8760.4	8578.9	8549.8	8969.7	10558.1	11070.7
50°	11622.5	11650.5	9867.9	9524.1	9918.7	9880.6	9545.7	9194.3	9359.2	10867.7	11396.7
52.5°	12307.6	12308.9	10412.2	10031.6	10929.8	11050.4	10660.9	9923.8	9935.2	11470.3	11960.0
55°	13113.3	13169.1	11121.4	10639.3	11987.9	12193.5	11826.8	10790.3	10762.4	12442.1	12873.5
57.5°	13736.2	14031.8	11947.3	11399.2	12976.2	13243.9	12948.3	11688.5	11778.6	13444.4	13627.1
60°	13911.3	14602.7	12770.7	12251.8	13812.3	14214.5	13913.8	12659.1	12773.2	14095.2	13844.0
62.5°	13701.9	14786.7	13609.3	13015.6	14308.4	14694.1	14478.4	13294.7	13583.9	14011.5	13477.4
65°	13081.5	14520.2	14337.6	13340.4	14022.9	14159.9	14102.8	13327.7	14024.2	13219.8	12463.7
67.5°	11632.7	13492.6	14012.8	12646.4	12689.5	12542.3	12467.5	12421.8	13529.4	11942.3	10865.1
70°	9460.7	11593.4	12463.7	10583.5	10263.8	10121.7	9875.5	10484.5	12160.5	10175.0	8941.8
72.5°	7287.4	8869.5	10223.2	8023.2	7358.4	7406.7	7127.5	8016.9	10073.5	7865.9	6826.9
75°	5175.0	6047.9	8160.3	5765.0	4884.5	4881.9	4860.4	5770.0	7948.4	5645.7	4994.9
77.5°	3730.0	4354.2	6393.0	3858.1	3466.1	3510.5	3439.4	3921.5	6196.3	4061.1	3700.8
80°	2975.1	3223.8	4132.1	2572.9	2580.5	2684.6	2669.3	2682.0	4076.3	2940.8	2767.0
82.5°	2137.8	2447.3	3159.1	1971.6	1706.4	1816.8	1838.3	1989.3	2876.1	2079.4	1824.4
85°	1096.2	1492.0	2906.6	1707.7	1067.0	884.3	1017.5	1569.4	2498.1	1245.9	889.4
87.5°	213.1	413.6	2130.1	949.0	479.6	242.3	399.6	664.8	1452.7	225.8	110.4
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°	5965.4	5965.4	5965.4	5965.4	5965.4	5965.4	5965.4	5965.4	5965.4	5965.4	5965.4
2.5°	6451.3	6288.9	6136.7	5979.4	5857.6	5709.1	5563.2	5436.4	5313.3	5232.1	5257.5
5°	6294.0	5898.2	5542.9	5213.1	5020.2	4788.1	4581.3	4407.5	4273.0	4186.7	4238.7
7.5°	5577.2	5041.8	4573.7	4138.5	3864.5	3563.8	3322.7	3152.7	3048.7	2990.3	3075.3
10°	4843.9	4242.5	3717.3	3264.4	2994.1	2739.1	2520.9	2340.7	2201.2	2135.2	2169.5
12.5°	4318.6	3650.0	3099.4	2794.9	2562.8	2334.4	2108.6	1898.0	1720.4	1639.2	1622.7
15°	4122.0	3331.6	2769.6	2429.6	2198.7	1950.0	1706.4	1480.6	1311.8	1242.1	1226.8
17.5°	4208.3	3263.1	2574.2	2172.0	1837.1	1535.1	1261.1	1047.9	923.6	884.3	888.1
20°	4511.5	3288.5	2416.9	1906.9	1493.3	1135.5	861.4	714.3	661.0	652.1	662.3
22.5°	4927.6	3392.5	2302.7	1678.5	1190.0	825.9	640.7	570.9	557.0	555.7	565.8
25°	5477.0	3595.5	2226.6	1475.5	940.1	654.6	558.2	518.9	507.5	510.0	520.2
27.5°	6124.0	3853.0	2177.1	1300.4	772.6	583.6	521.4	487.2	475.8	478.3	485.9
30°	6715.2	4078.9	2103.5	1168.5	694.0	558.2	501.1	466.9	451.7	451.7	456.7
32.5°	7244.3	4274.2	2017.2	1069.5	621.7	501.1	454.2	427.6	416.1	419.9	422.5
35°	7713.7	4377.0	1950.0	1011.2	563.3	461.8	414.9	387.0	371.7	374.3	378.1
37.5°	8175.5	4416.3	1905.6	979.4	521.4	437.7	394.6	371.7	355.2	352.7	351.4
40°	8614.5	4407.5	1863.7	970.6	493.5	419.9	381.9	361.6	345.1	341.3	340.0
42.5°	8993.8	4378.3	1824.4	946.4	474.5	407.3	371.7	354.0	337.5	332.4	329.9
45°	9340.2	4360.5	1781.3	902.0	484.6	402.2	366.7	347.6	332.4	326.1	323.5
47.5°	9724.6	4423.9	1733.0	853.8	482.1	403.4	366.7	345.1	329.9	323.5	321.0
50°	10182.6	4638.4	1673.4	787.9	459.3	431.4	365.4	341.3	327.3	323.5	318.4
52.5°	10829.6	4986.0	1590.9	702.9	441.5	460.5	364.1	334.9	323.5	317.2	310.8
55°	11716.4	5333.6	1484.4	612.8	413.6	440.2	366.7	327.3	314.6	308.3	300.7
57.5°	12443.4	5597.5	1349.9	537.9	388.2	416.1	362.8	318.4	304.5	298.1	291.8
60°	12396.4	5622.9	1221.8	489.7	373.0	374.3	371.7	312.1	295.6	290.5	285.5
62.5°	11628.9	5309.5	1102.5	465.6	361.6	341.3	379.3	304.5	286.7	281.7	277.8
65°	10351.3	4580.0	1039.1	465.6	351.4	323.5	331.1	294.3	277.8	272.8	270.2
67.5°	8731.2	3680.5	979.4	475.8	337.5	310.8	300.7	284.2	269.0	263.9	261.4
70°	6998.1	2896.4	937.6	470.7	324.8	296.9	284.2	270.2	255.0	253.7	251.2
72.5°	5489.7	2326.8	918.5	470.7	305.8	280.4	267.7	257.5	242.3	241.1	237.2
75°	4398.6	1747.0	839.9	461.8	286.7	258.8	247.4	238.5	223.3	224.6	222.0
77.5°	3406.5	1235.7	701.6	416.1	262.6	234.7	225.8	219.5	201.7	203.0	203.0
80°	2664.3	804.4	544.3	345.1	234.7	206.8	200.5	195.4	176.3	178.9	178.9
82.5°	1825.7	478.3	394.6	277.8	201.7	176.3	175.1	167.5	147.2	148.4	151.0
85°	997.2	314.6	262.6	205.5	158.6	143.4	140.8	137.0	118.0	118.0	119.3
87.5°	184.0	168.7	154.8	135.8	106.6	102.8	99.0	102.8	88.8	86.3	86.3
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°	5965.4	5965.4	5965.4	5965.4	5965.4	5965.4	5965.4	5965.4	5965.4	5965.4	5965.4
2.5°	5197.9	5110.3	5049.4	4996.1	4868.0	4876.9	4894.6	4920.0	4840.1	4881.9	4934.0
5°	4186.7	4114.4	4059.8	3974.8	3795.9	3732.5	3691.9	3674.1	3554.9	3580.3	3636.1
7.5°	3086.7	3085.5	3066.4	2971.3	2755.6	2624.9	2538.7	2512.0	2438.4	2466.3	2551.4
10°	2173.3	2196.1	2187.2	2102.2	1909.4	1815.5	1796.5	1849.8	1851.0	1905.6	2051.5
12.5°	1570.6	1558.0	1546.5	1476.8	1332.1	1316.9	1360.0	1433.6	1451.4	1509.8	1662.0
15°	1172.3	1141.8	1135.5	1080.9	985.8	999.7	1031.5	1069.5	1070.8	1111.4	1237.0
17.5°	879.2	879.2	889.4	853.8	785.3	779.0	762.5	752.3	737.1	753.6	822.1
20°	682.6	714.3	739.7	719.4	657.2	626.7	595.0	574.7	563.3	564.6	584.9
22.5°	584.9	610.2	643.2	633.1	581.1	541.7	521.4	507.5	498.6	498.6	510.0
25°	535.4	551.9	582.3	577.3	532.9	501.1	484.6	470.7	460.5	459.3	470.7
27.5°	496.1	506.2	526.5	524.0	478.3	458.0	447.9	439.0	432.6	431.4	442.8
30°	460.5	465.6	475.8	472.0	437.7	417.4	413.6	409.8	406.0	407.3	423.7
32.5°	428.8	432.6	439.0	433.9	400.9	383.1	376.8	371.7	367.9	371.7	390.8
35°	393.3	404.7	412.3	409.8	374.3	352.7	338.7	326.1	321.0	324.8	346.4
37.5°	362.8	381.9	392.0	389.5	352.7	327.3	309.6	307.0	307.0	312.1	333.7
40°	351.4	365.4	374.3	370.5	333.7	308.3	298.1	294.3	295.6	300.7	323.5
42.5°	341.3	354.0	356.5	348.9	312.1	295.6	289.3	284.2	286.7	293.1	315.9
45°	332.4	342.5	341.3	329.9	294.3	282.9	282.9	279.1	280.4	285.5	309.6
47.5°	326.1	331.1	328.6	317.2	281.7	272.8	276.6	276.6	279.1	282.9	307.0
50°	315.9	319.7	317.2	307.0	271.5	263.9	267.7	272.8	275.3	279.1	300.7
52.5°	305.8	308.3	307.0	296.9	261.4	256.3	256.3	261.4	266.4	271.5	290.5
55°	295.6	298.1	299.4	291.8	253.7	248.7	247.4	247.4	252.5	260.1	280.4
57.5°	288.0	288.0	290.5	285.5	246.1	239.8	233.4	234.7	241.1	247.4	267.7
60°	279.1	280.4	284.2	279.1	236.0	225.8	220.8	227.1	229.6	236.0	257.5
62.5°	271.5	271.5	274.0	270.2	227.1	216.9	213.1	219.5	219.5	225.8	247.4
65°	265.2	263.9	263.9	262.6	218.2	208.1	205.5	208.1	209.3	215.7	237.2
67.5°	260.1	253.7	253.7	256.3	209.3	199.2	197.9	197.9	199.2	206.8	225.8
70°	248.7	243.6	242.3	251.2	200.5	187.8	187.8	185.2	187.8	191.6	211.9
72.5°	236.0	232.2	230.9	243.6	191.6	175.1	172.5	171.3	172.5	176.3	195.4
75°	219.5	216.9	219.5	238.5	182.7	161.1	157.3	156.0	156.0	157.3	177.6
77.5°	200.5	197.9	216.9	222.0	177.6	144.6	140.8	138.3	135.8	135.8	158.6
80°	177.6	176.3	209.3	187.8	170.0	126.9	120.5	116.7	114.2	112.9	135.8
82.5°	154.8	152.2	178.9	147.2	140.8	104.0	95.2	87.5	83.7	83.7	104.0
85°	126.9	125.6	140.8	107.8	97.7	76.1	63.4	57.1	52.0	52.0	67.2
87.5°	92.6	90.1	87.5	64.7	49.5	34.3	24.1	22.8	20.3	19.0	27.9
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):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	5965.4	5965.4	5965.4	5965.4	5965.4	5965.4	5965.4	5965.4
2.5°	5011.4	5116.7	5315.8	5479.5	5697.7	5872.8	6072.0	6158.3
5°	3738.9	3905.1	4209.5	4469.6	4829.9	5163.6	5544.2	5752.3
7.5°	2682.0	2928.2	3159.1	3483.8	3934.2	4382.1	4874.3	5149.6
10°	2219.0	2444.8	2642.7	2873.6	3221.2	3724.9	4312.3	4623.1
12.5°	1838.3	2081.9	2291.3	2538.7	2830.5	3285.9	3955.8	4317.4
15°	1409.5	1674.7	1925.9	2224.0	2581.8	3102.0	3849.2	4252.7
17.5°	965.5	1249.7	1559.2	1923.3	2354.7	3024.6	3950.7	4448.1
20°	655.9	864.0	1200.2	1631.5	2150.4	2987.8	4174.0	4850.2
22.5°	539.2	633.1	885.6	1357.5	1983.0	3028.4	4536.9	5379.3
25°	494.8	545.5	688.9	1116.5	1854.8	3136.2	5027.8	5976.8
27.5°	466.9	510.0	603.9	943.9	1736.8	3283.4	5625.4	6707.6
30°	450.4	491.0	569.6	855.1	1629.0	3410.3	6139.2	7258.2
32.5°	413.6	444.0	508.7	804.4	1551.6	3513.0	6592.2	7773.3
35°	369.2	406.0	459.3	771.4	1549.1	3561.2	7018.4	8343.0
37.5°	352.7	388.2	427.6	753.6	1564.3	3601.8	7539.9	8988.7
40°	342.5	374.3	406.0	751.1	1577.0	3633.6	8049.9	9661.1
42.5°	333.7	365.4	402.2	733.3	1571.9	3676.7	8501.5	10238.4
45°	331.1	362.8	411.1	706.7	1570.6	3743.9	8860.6	10700.2
47.5°	328.6	376.8	408.5	677.5	1565.6	3886.0	9265.3	11130.3
50°	326.1	402.2	390.8	636.9	1527.5	4128.3	9809.6	11622.5
52.5°	324.8	406.0	371.7	581.1	1459.0	4487.4	10606.3	12307.6
55°	319.7	385.7	338.7	507.5	1360.0	4874.3	11460.1	13113.3
57.5°	308.3	343.8	319.7	435.2	1217.9	5144.6	12090.7	13736.2
60°	336.2	295.6	307.0	398.4	1047.9	5192.8	12118.6	13911.3
62.5°	321.0	269.0	294.3	385.7	928.7	4878.1	11564.2	13701.9
65°	256.3	255.0	282.9	398.4	910.9	4174.0	10627.9	13081.5
67.5°	233.4	244.9	271.5	413.6	922.3	3288.5	9250.1	11632.7
70°	218.2	232.2	256.3	427.6	942.6	2590.7	7447.3	9460.7
72.5°	203.0	214.4	241.1	441.5	928.7	2043.9	5960.3	7287.4
75°	184.0	194.1	219.5	404.7	796.7	1502.1	4736.0	5175.0
77.5°	162.4	171.3	192.8	319.7	598.8	1045.4	3547.3	3730.0
80°	139.6	143.4	159.9	233.4	390.8	625.5	2699.8	2975.1
82.5°	110.4	111.6	121.8	171.3	243.6	399.6	1872.6	2137.8
85°	71.0	73.6	78.7	120.5	163.7	256.3	956.6	1096.2
87.5°	24.1	27.9	27.9	58.4	79.9	142.1	293.1	213.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)