

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: P197181

Luminaire Tested: **NAV-AF-03-D-UNV-SLL-8030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197181
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-8030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 80 CRI, 3000K, 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: 14321 lumens
Efficiency: N/A
Efficacy: 75.0 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

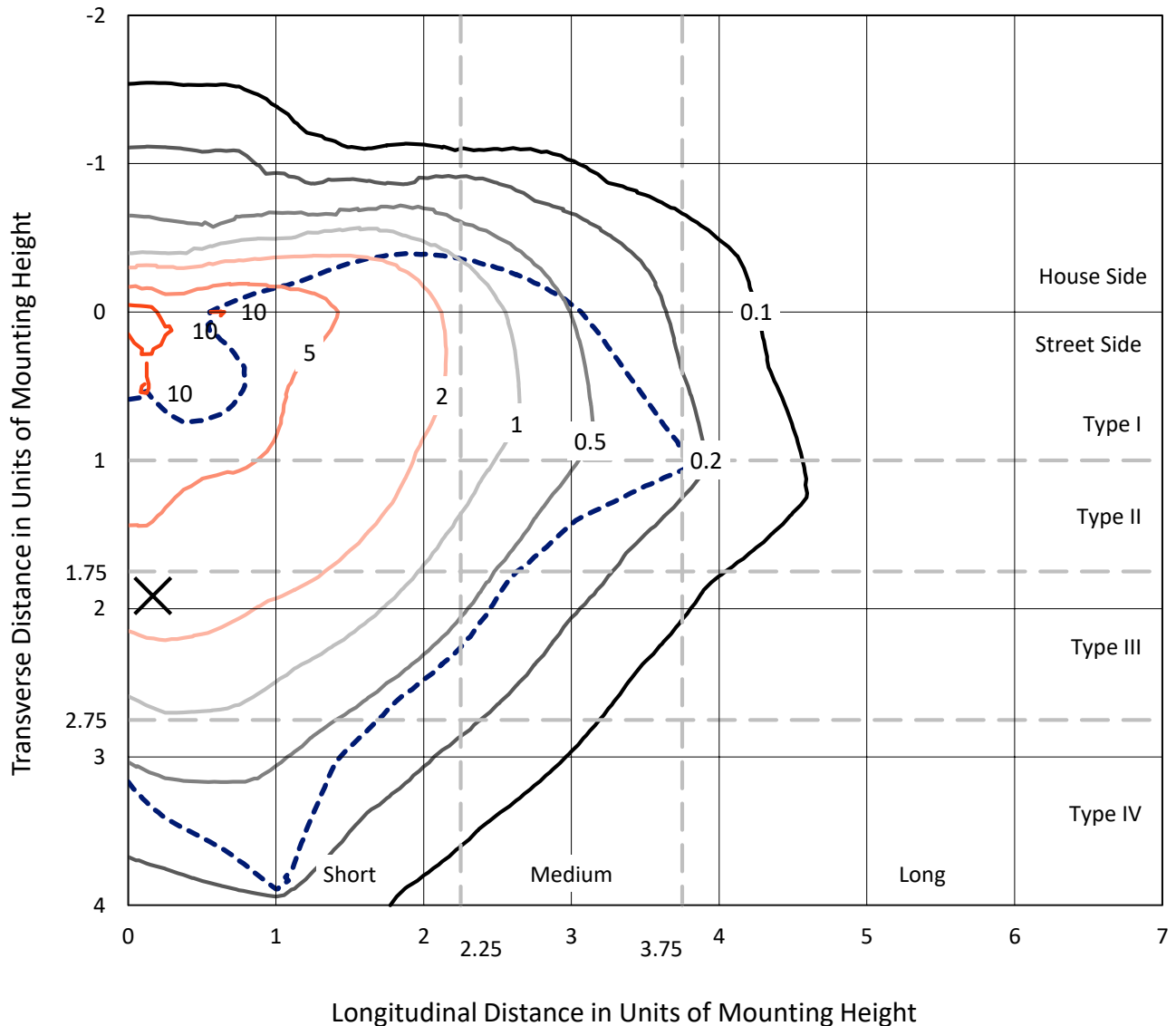


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Iso-Footcandle Lines of Horizontal Illumination

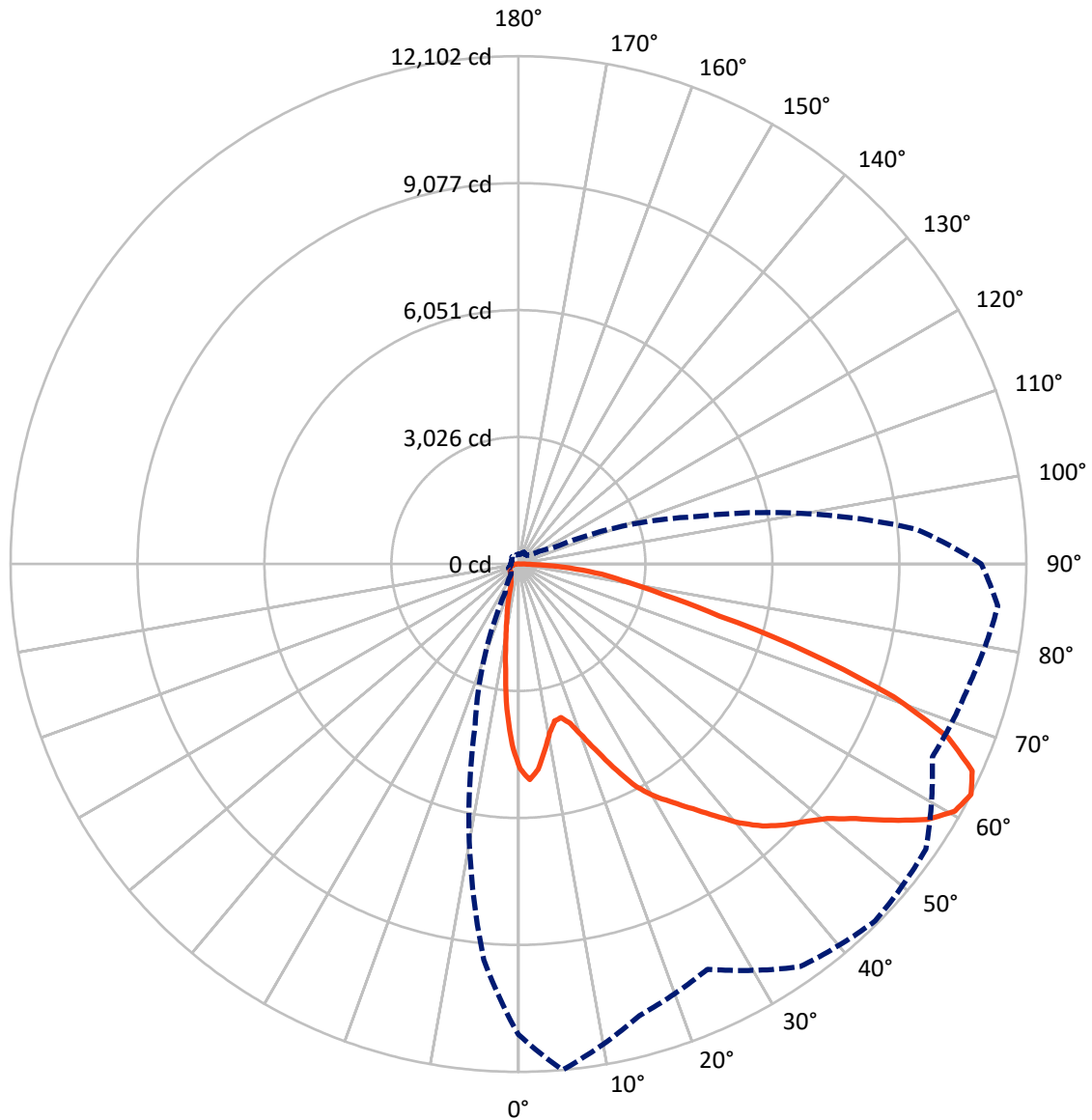
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 14 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	2537.0	0.0	2537.0
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	11784.0	0.0	11784.0
	% Fixture	82.3	0.0	82.3
Total	Lumens	14321.0	0.0	14321.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	355.1	2.5
10°-20°	648.5	4.5
20°-30°	932.7	6.5
30°-40°	1428.6	10.0
40°-50°	2088.6	14.6
50°-60°	3039.0	21.2
60°-70°	3521.1	24.6
70°-80°	1835.5	12.8
80°-90°	471.8	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°	14321.0	100.0
0°-180°	14321.0	100.0



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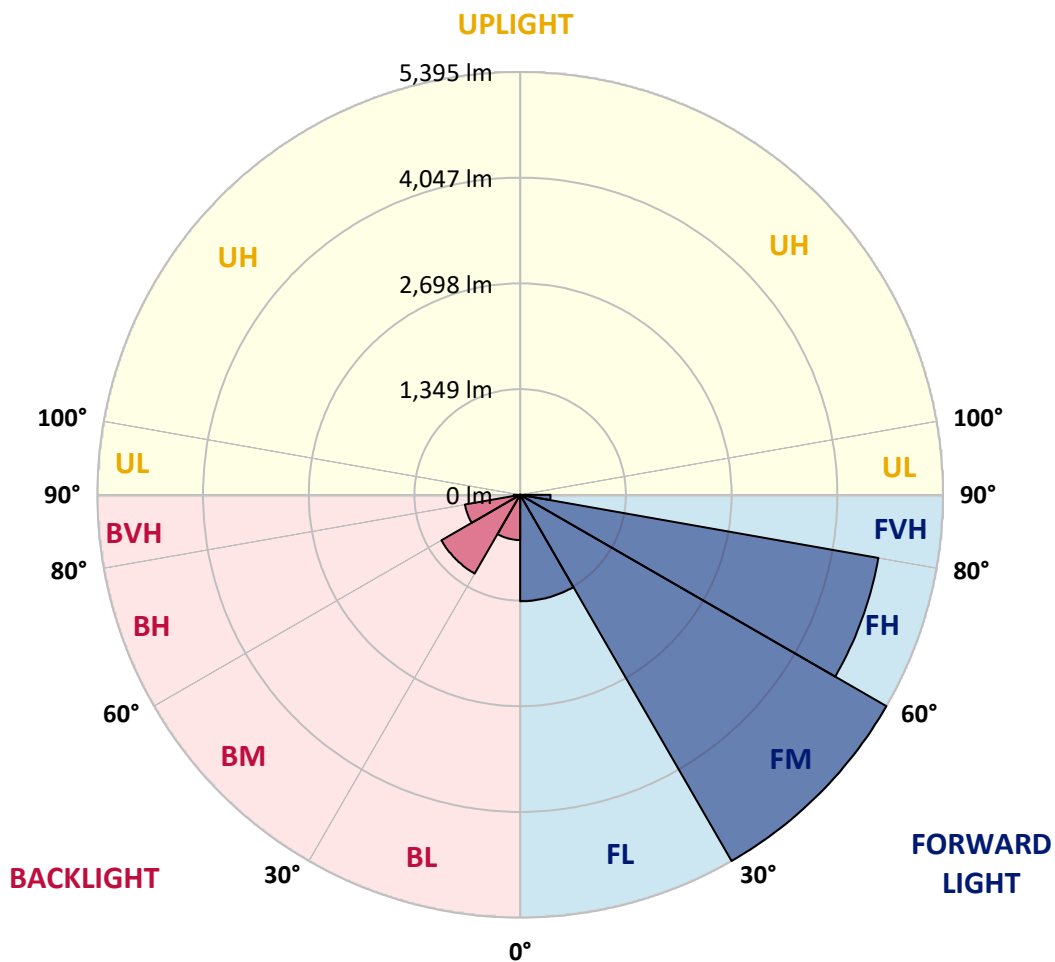
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1359.1	9.5			
FM (30°-60°)	5395.5	37.7			
FH (60°-80°)	4641.2	32.4			G2/5000
FVH (80°-90°)	388.2	2.7			G3/500
BL (0°-30°)	577.2	4.0	B2/1000		
BM (30°-60°)	1160.8	8.1	B2/2500		
BH (60°-80°)	715.4	5.0	B2/1000		G2/1000
BVH (80°-90°)	83.7	0.6			G1/100
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°	4882.3	4882.3	4882.3	4882.3	4882.3	4882.3	4882.3	4882.3	4882.3	4882.3	4882.3
2.5°	5040.1	5147.1	5269.6	5429.5	5538.6	5582.2	5618.5	5557.2	5498.1	5387.0	5347.5
5°	4707.9	4913.5	5250.9	5571.8	5854.2	6016.2	6066.0	5952.9	5751.4	5460.7	5307.0
7.5°	4214.7	4485.7	4960.2	5432.6	5837.6	6107.6	6127.3	5903.0	5506.4	5029.8	4780.6
10°	3783.7	4090.1	4639.3	5167.9	5596.7	5872.9	5818.9	5504.3	5025.6	4483.6	4202.2
12.5°	3533.5	3839.8	4399.5	4936.3	5340.2	5445.1	5335.0	5070.3	4616.5	4073.4	3790.0
15°	3480.5	3796.2	4314.3	4767.1	5017.3	4949.8	4840.8	4706.8	4383.9	3939.5	3665.4
17.5°	3640.4	3993.5	4427.5	4675.7	4665.3	4503.3	4411.9	4437.9	4382.9	4084.9	3798.3
20°	3969.6	4387.0	4715.1	4650.8	4384.9	4157.5	4104.6	4308.1	4562.5	4449.3	4134.7
22.5°	4402.6	4878.2	5107.6	4722.4	4238.5	3993.5	3983.1	4300.8	4889.6	5000.7	4617.5
25°	4891.7	5446.1	5503.2	4849.1	4223.0	3979.0	3969.6	4413.0	5283.1	5546.9	5158.5
27.5°	5489.7	6019.3	5833.4	5018.3	4291.5	4021.5	4027.8	4604.0	5693.3	6086.8	5768.0
30°	5940.4	6426.3	6037.0	5184.5	4401.6	4096.3	4111.9	4810.7	5914.4	6461.6	6255.0
32.5°	6362.0	6774.2	6232.2	5348.5	4562.5	4207.4	4261.4	5068.2	6180.2	6783.5	6715.0
35°	6828.2	7163.6	6449.2	5524.0	4793.0	4402.6	4480.5	5313.2	6444.0	7105.4	7170.8
37.5°	7356.7	7609.0	6684.9	5772.2	5125.3	4763.9	4807.6	5563.5	6627.8	7461.6	7659.9
40°	7907.0	8108.5	6942.4	6103.4	5608.1	5252.0	5272.7	5884.3	6772.1	7830.2	8134.4
42.5°	8379.5	8536.3	7200.9	6514.6	6162.6	5749.3	5767.0	6230.1	6910.2	8147.9	8514.5
45°	8757.4	8872.7	7445.0	6947.6	6754.5	6370.3	6366.1	6582.1	7095.0	8415.8	8806.2
47.5°	9109.4	9170.7	7717.0	7369.2	7368.1	7169.8	7021.3	6997.4	7341.1	8641.1	9060.6
50°	9512.3	9535.2	8076.3	7794.9	8117.8	8086.7	7812.5	7524.9	7659.9	8894.5	9327.5
52.5°	10073.0	10074.1	8521.7	8210.2	8945.4	9044.0	8725.2	8122.0	8131.3	9387.7	9788.5
55°	10732.4	10778.1	9102.2	8707.6	9811.4	9979.6	9679.5	8831.2	8808.3	10183.1	10536.1
57.5°	11242.2	11484.1	9778.1	9329.6	10620.2	10839.3	10597.4	9566.3	9640.0	11003.4	11152.9
60°	11385.5	11951.4	10452.0	10027.3	11304.5	11633.7	11387.6	10360.6	10454.1	11536.1	11330.5
62.5°	11214.2	12102.0	11138.4	10652.4	11710.5	12026.2	11849.6	10880.9	11117.6	11467.5	11030.4
65°	10706.4	11883.9	11734.4	10918.2	11476.9	11589.0	11542.3	10907.8	11477.9	10819.6	10200.7
67.5°	9520.6	11042.8	11468.6	10350.3	10385.6	10265.1	10203.8	10166.5	11072.9	9774.0	8892.4
70°	7743.0	9488.4	10200.7	8661.9	8400.2	8283.9	8082.5	8580.9	9952.6	8327.6	7318.3
72.5°	5964.3	7259.1	8367.0	6566.5	6022.4	6061.9	5833.4	6561.3	8244.5	6437.8	5587.4
75°	4235.4	4949.8	6678.7	4718.3	3997.6	3995.6	3977.9	4722.4	6505.3	4620.7	4088.0
77.5°	3052.7	3563.6	5232.2	3157.6	2836.8	2873.1	2815.0	3209.5	5071.3	3323.8	3028.9
80°	2434.9	2638.4	3381.9	2105.8	2112.0	2197.1	2184.7	2195.1	3336.2	2406.9	2264.6
82.5°	1749.6	2003.0	2585.5	1613.6	1396.6	1486.9	1504.6	1628.1	2353.9	1701.9	1493.1
85°	897.1	1221.1	2378.9	1397.6	873.3	723.7	832.8	1284.4	2044.5	1019.7	727.9
87.5°	174.4	338.5	1743.4	776.7	392.5	198.3	327.1	544.1	1188.9	184.8	90.3
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	4882.3	4882.3	4882.3	4882.3	4882.3	4882.3	4882.3	4882.3	4882.3	4882.3	4882.3
2.5°	5280.0	5147.1	5022.5	4893.7	4794.1	4672.6	4553.2	4449.3	4348.6	4282.1	4302.9
5°	5151.2	4827.3	4536.5	4266.6	4108.7	3918.7	3749.5	3607.2	3497.2	3426.5	3469.1
7.5°	4564.6	4126.4	3743.2	3387.1	3162.8	2916.7	2719.4	2580.3	2495.2	2447.4	2517.0
10°	3964.4	3472.2	3042.4	2671.7	2450.5	2241.8	2063.2	1915.8	1801.5	1747.5	1775.6
12.5°	3534.5	2987.3	2536.7	2287.5	2097.5	1910.6	1725.7	1553.4	1408.0	1341.5	1328.0
15°	3373.6	2726.7	2266.7	1988.4	1799.5	1595.9	1396.6	1211.8	1073.7	1016.5	1004.1
17.5°	3444.2	2670.6	2106.8	1777.7	1503.5	1256.4	1032.1	857.7	755.9	723.7	726.8
20°	3692.4	2691.4	1978.1	1560.6	1222.1	929.3	705.0	584.6	541.0	533.7	542.0
22.5°	4032.9	2776.5	1884.6	1373.7	974.0	676.0	524.4	467.3	455.8	454.8	463.1
25°	4482.6	2942.7	1822.3	1207.6	769.4	535.8	456.9	424.7	415.3	417.4	425.7
27.5°	5012.1	3153.5	1781.8	1064.3	632.4	477.6	426.8	398.7	389.4	391.5	397.7
30°	5496.0	3338.3	1721.6	956.3	568.0	456.9	410.1	382.1	369.7	369.7	373.8
32.5°	5929.0	3498.2	1651.0	875.3	508.8	410.1	371.7	349.9	340.6	343.7	345.8
35°	6313.2	3582.3	1595.9	827.6	461.0	378.0	339.5	316.7	304.2	306.3	309.4
37.5°	6691.1	3614.5	1559.6	801.6	426.8	358.2	322.9	304.2	290.7	288.7	287.6
40°	7050.4	3607.2	1525.3	794.3	403.9	343.7	312.5	295.9	282.4	279.3	278.3
42.5°	7360.9	3583.3	1493.1	774.6	388.3	333.3	304.2	289.7	276.2	272.0	270.0
45°	7644.3	3568.8	1457.8	738.3	396.6	329.2	300.1	284.5	272.0	266.9	264.8
47.5°	7958.9	3620.7	1418.4	698.8	394.6	330.2	300.1	282.4	270.0	264.8	262.7
50°	8333.8	3796.2	1369.6	644.8	375.9	353.0	299.0	279.3	267.9	264.8	260.6
52.5°	8863.3	4080.7	1302.1	575.2	361.3	376.9	298.0	274.1	264.8	259.6	254.4
55°	9589.1	4365.2	1214.9	501.5	338.5	360.3	300.1	267.9	257.5	252.3	246.1
57.5°	10184.1	4581.2	1104.8	440.3	317.7	340.6	297.0	260.6	249.2	244.0	238.8
60°	10145.7	4602.0	999.9	400.8	305.3	306.3	304.2	255.4	241.9	237.8	233.6
62.5°	9517.5	4345.5	902.3	381.1	295.9	279.3	310.5	249.2	234.7	230.5	227.4
65°	8471.9	3748.4	850.4	381.1	287.6	264.8	271.0	240.9	227.4	223.2	221.2
67.5°	7145.9	3012.2	801.6	389.4	276.2	254.4	246.1	232.6	220.1	216.0	213.9
70°	5727.5	2370.5	767.3	385.2	265.8	243.0	232.6	221.2	208.7	207.7	205.6
72.5°	4492.9	1904.3	751.8	385.2	250.2	229.5	219.1	210.8	198.3	197.3	194.2
75°	3600.0	1429.8	687.4	378.0	234.7	211.8	202.5	195.2	182.7	183.8	181.7
77.5°	2788.0	1011.4	574.2	340.6	214.9	192.1	184.8	179.6	165.1	166.1	166.1
80°	2180.5	658.3	445.5	282.4	192.1	169.3	164.1	159.9	144.3	146.4	146.4
82.5°	1494.2	391.5	322.9	227.4	165.1	144.3	143.3	137.1	120.4	121.5	123.6
85°	816.1	257.5	214.9	168.2	129.8	117.3	115.3	112.1	96.6	96.6	97.6
87.5°	150.6	138.1	126.7	111.1	87.2	84.1	81.0	84.1	72.7	70.6	70.6
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°	4882.3	4882.3	4882.3	4882.3	4882.3	4882.3	4882.3	4882.3	4882.3	4882.3	4882.3
2.5°	4254.1	4182.5	4132.6	4089.0	3984.1	3991.4	4005.9	4026.7	3961.3	3995.6	4038.1
5°	3426.5	3367.4	3322.7	3253.1	3106.7	3054.8	3021.6	3007.1	2909.5	2930.2	2975.9
7.5°	2526.3	2525.3	2509.7	2431.8	2255.3	2148.3	2077.7	2055.9	1995.7	2018.5	2088.1
10°	1778.7	1797.4	1790.1	1720.5	1562.7	1485.9	1470.3	1513.9	1515.0	1559.6	1679.0
12.5°	1285.5	1275.1	1265.7	1208.6	1090.3	1077.8	1113.1	1173.3	1187.9	1235.6	1360.2
15°	959.4	934.5	929.3	884.7	806.8	818.2	844.2	875.3	876.4	909.6	1012.4
17.5°	719.6	719.6	727.9	698.8	642.7	637.5	624.0	615.7	603.3	616.8	672.8
20°	558.6	584.6	605.4	588.7	537.9	512.9	487.0	470.4	461.0	462.1	478.7
22.5°	478.7	499.4	526.4	518.1	475.6	443.4	426.8	415.3	408.1	408.1	417.4
25°	438.2	451.7	476.6	472.4	436.1	410.1	396.6	385.2	376.9	375.9	385.2
27.5°	406.0	414.3	430.9	428.8	391.5	374.8	366.5	359.3	354.1	353.0	362.4
30°	376.9	381.1	389.4	386.3	358.2	341.6	338.5	335.4	332.3	333.3	346.8
32.5°	351.0	354.1	359.3	355.1	328.1	313.6	308.4	304.2	301.1	304.2	319.8
35°	321.9	331.2	337.5	335.4	306.3	288.7	277.2	266.9	262.7	265.8	283.5
37.5°	297.0	312.5	320.8	318.8	288.7	267.9	253.4	251.3	251.3	255.4	273.1
40°	287.6	299.0	306.3	303.2	273.1	252.3	244.0	240.9	241.9	246.1	264.8
42.5°	279.3	289.7	291.8	285.5	255.4	241.9	236.7	232.6	234.7	239.9	258.5
45°	272.0	280.4	279.3	270.0	240.9	231.6	231.6	228.4	229.5	233.6	253.4
47.5°	266.9	271.0	268.9	259.6	230.5	223.2	226.4	226.4	228.4	231.6	251.3
50°	258.5	261.7	259.6	251.3	222.2	216.0	219.1	223.2	225.3	228.4	246.1
52.5°	250.2	252.3	251.3	243.0	213.9	209.7	209.7	213.9	218.1	222.2	237.8
55°	241.9	244.0	245.1	238.8	207.7	203.5	202.5	202.5	206.6	212.9	229.5
57.5°	235.7	235.7	237.8	233.6	201.4	196.2	191.1	192.1	197.3	202.5	219.1
60°	228.4	229.5	232.6	228.4	193.1	184.8	180.7	185.9	187.9	193.1	210.8
62.5°	222.2	222.2	224.3	221.2	185.9	177.6	174.4	179.6	179.6	184.8	202.5
65°	217.0	216.0	216.0	214.9	178.6	170.3	168.2	170.3	171.3	176.5	194.2
67.5°	212.9	207.7	207.7	209.7	171.3	163.0	162.0	162.0	163.0	169.3	184.8
70°	203.5	199.4	198.3	205.6	164.1	153.7	153.7	151.6	153.7	156.8	173.4
72.5°	193.1	190.0	189.0	199.4	156.8	143.3	141.2	140.2	141.2	144.3	159.9
75°	179.6	177.6	179.6	195.2	149.5	131.9	128.8	127.7	127.7	128.8	145.4
77.5°	164.1	162.0	177.6	181.7	145.4	118.4	115.3	113.2	111.1	111.1	129.8
80°	145.4	144.3	171.3	153.7	139.1	103.8	98.6	95.5	93.5	92.4	111.1
82.5°	126.7	124.6	146.4	120.4	115.3	85.1	77.9	71.6	68.5	68.5	85.1
85°	103.8	102.8	115.3	88.3	80.0	62.3	51.9	46.7	42.6	42.6	55.0
87.5°	75.8	73.7	71.6	53.0	40.5	28.0	19.7	18.7	16.6	15.6	22.8
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):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	4882.3	4882.3	4882.3	4882.3	4882.3	4882.3	4882.3	4882.3
2.5°	4101.5	4187.7	4350.7	4484.6	4663.2	4806.5	4969.5	5040.1
5°	3060.0	3196.0	3445.2	3658.1	3953.0	4226.1	4537.6	4707.9
7.5°	2195.1	2396.5	2585.5	2851.3	3219.9	3586.5	3989.3	4214.7
10°	1816.1	2000.9	2162.9	2351.9	2636.4	3048.6	3529.3	3783.7
12.5°	1504.6	1703.9	1875.3	2077.7	2316.6	2689.3	3237.6	3533.5
15°	1153.6	1370.6	1576.2	1820.2	2113.0	2538.8	3150.3	3480.5
17.5°	790.2	1022.8	1276.1	1574.1	1927.2	2475.4	3233.4	3640.4
20°	536.8	707.1	982.3	1335.3	1760.0	2445.3	3416.2	3969.6
22.5°	441.3	518.1	724.8	1111.0	1622.9	2478.5	3713.1	4402.6
25°	405.0	446.5	563.8	913.7	1518.1	2566.8	4115.0	4891.7
27.5°	382.1	417.4	494.3	772.5	1421.5	2687.2	4604.0	5489.7
30°	368.6	401.8	466.2	699.8	1333.2	2791.1	5024.6	5940.4
32.5°	338.5	363.4	416.4	658.3	1269.9	2875.2	5395.3	6362.0
35°	302.2	332.3	375.9	631.3	1267.8	2914.6	5744.1	6828.2
37.5°	288.7	317.7	349.9	616.8	1280.3	2947.9	6170.9	7356.7
40°	280.4	306.3	332.3	614.7	1290.7	2973.8	6588.3	7907.0
42.5°	273.1	299.0	329.2	600.2	1286.5	3009.1	6958.0	8379.5
45°	271.0	297.0	336.4	578.4	1285.5	3064.2	7251.8	8757.4
47.5°	268.9	308.4	334.3	554.5	1281.3	3180.5	7583.1	9109.4
50°	266.9	329.2	319.8	521.3	1250.2	3378.8	8028.5	9512.3
52.5°	265.8	332.3	304.2	475.6	1194.1	3672.6	8680.6	10073.0
55°	261.7	315.7	277.2	415.3	1113.1	3989.3	9379.4	10732.4
57.5°	252.3	281.4	261.7	356.2	996.8	4210.5	9895.5	11242.2
60°	275.2	241.9	251.3	326.0	857.7	4250.0	9918.3	11385.5
62.5°	262.7	220.1	240.9	315.7	760.1	3992.4	9464.5	11214.2
65°	209.7	208.7	231.6	326.0	745.5	3416.2	8698.2	10706.4
67.5°	191.1	200.4	222.2	338.5	754.9	2691.4	7570.6	9520.6
70°	178.6	190.0	209.7	349.9	771.5	2120.3	6095.1	7743.0
72.5°	166.1	175.5	197.3	361.3	760.1	1672.8	4878.2	5964.3
75°	150.6	158.9	179.6	331.2	652.1	1229.4	3876.2	4235.4
77.5°	132.9	140.2	157.8	261.7	490.1	855.6	2903.2	3052.7
80°	114.2	117.3	130.8	191.1	319.8	511.9	2209.6	2434.9
82.5°	90.3	91.4	99.7	140.2	199.4	327.1	1532.6	1749.6
85°	58.1	60.2	64.4	98.6	133.9	209.7	782.9	897.1
87.5°	19.7	22.8	22.8	47.8	65.4	116.3	239.9	174.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)