

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: P197171

Luminaire Tested: **NAV-AF-05-D-UNV-SLL-8030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197171
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-8030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 CRI, 3000K, 800mA 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: 17509 lumens
Efficiency: N/A
Efficacy: 83.4 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

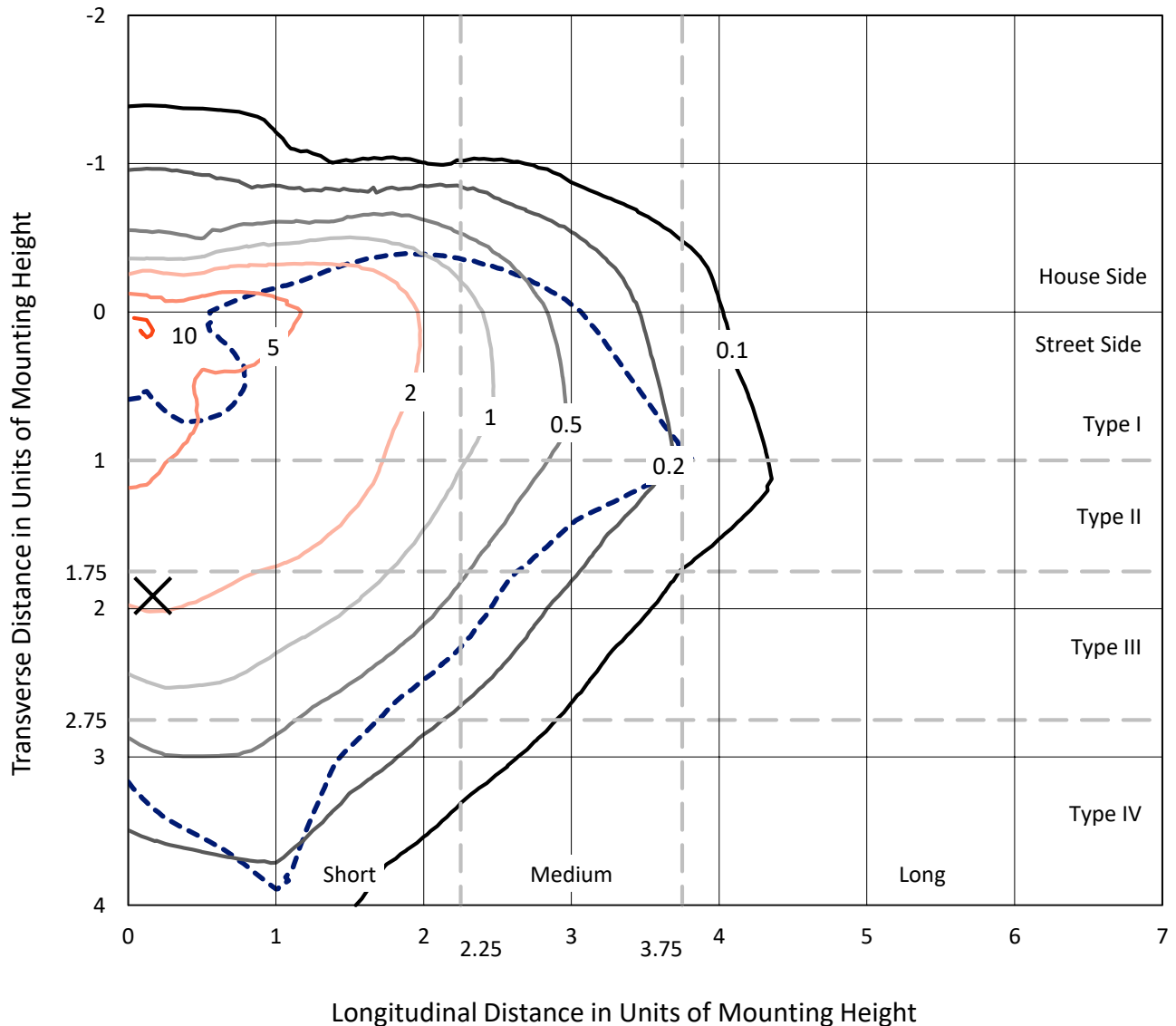
Input Watts (W): 210
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

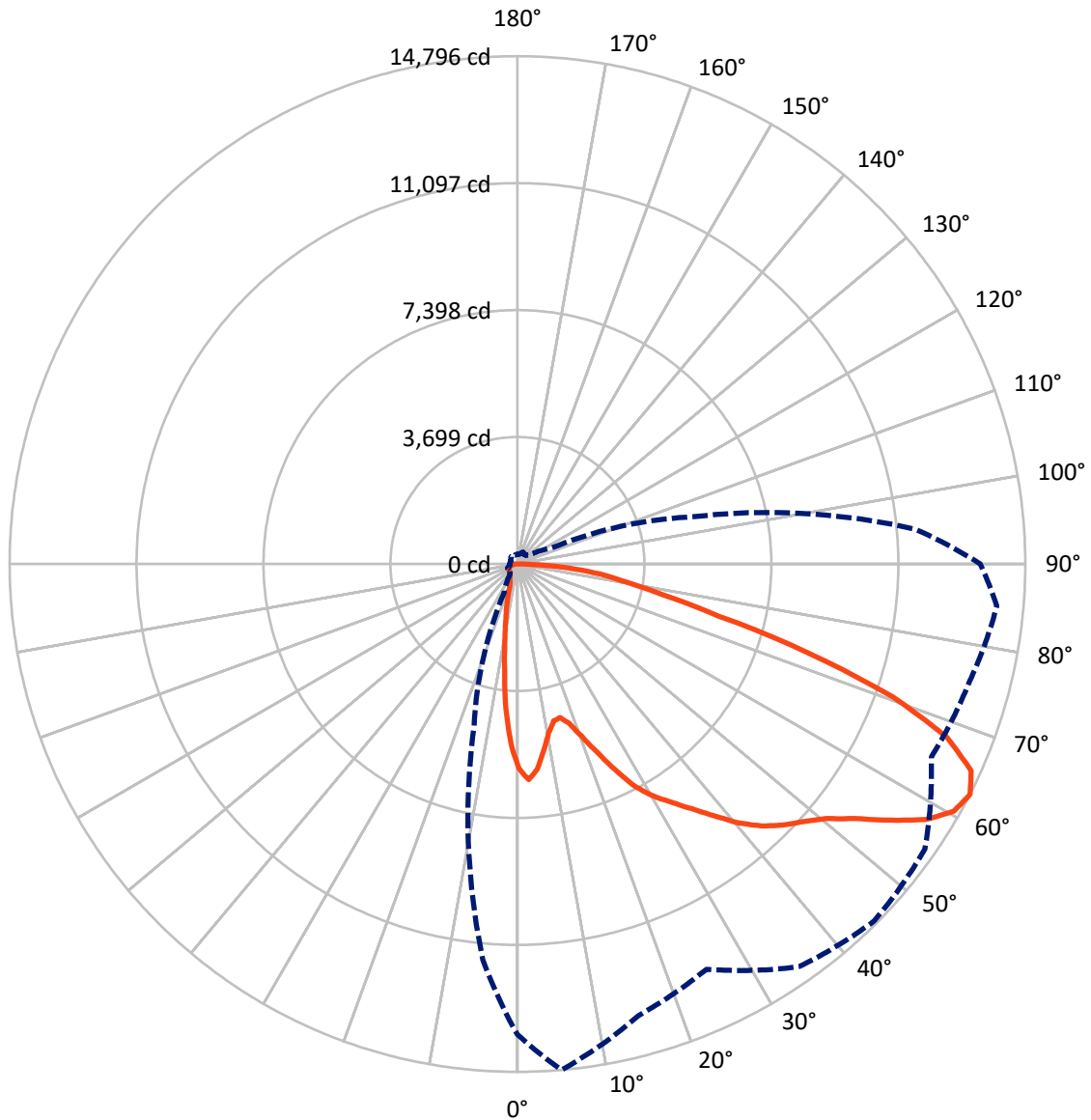
✕ Max cd
 - - - 1/2 Max cd



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	3101.7	0.0	3101.7
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	14407.3	0.0	14407.3
	% Fixture	82.3	0.0	82.3
Total	Lumens	17509.0	0.0	17509.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	434.1	2.5
10°-20°	792.9	4.5
20°-30°	1140.4	6.5
30°-40°	1746.6	10.0
40°-50°	2553.6	14.6
50°-60°	3715.5	21.2
60°-70°	4304.9	24.6
70°-80°	2244.1	12.8
80°-90°	576.8	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°	17509.0	100.0
0°-180°	17509.0	100.0



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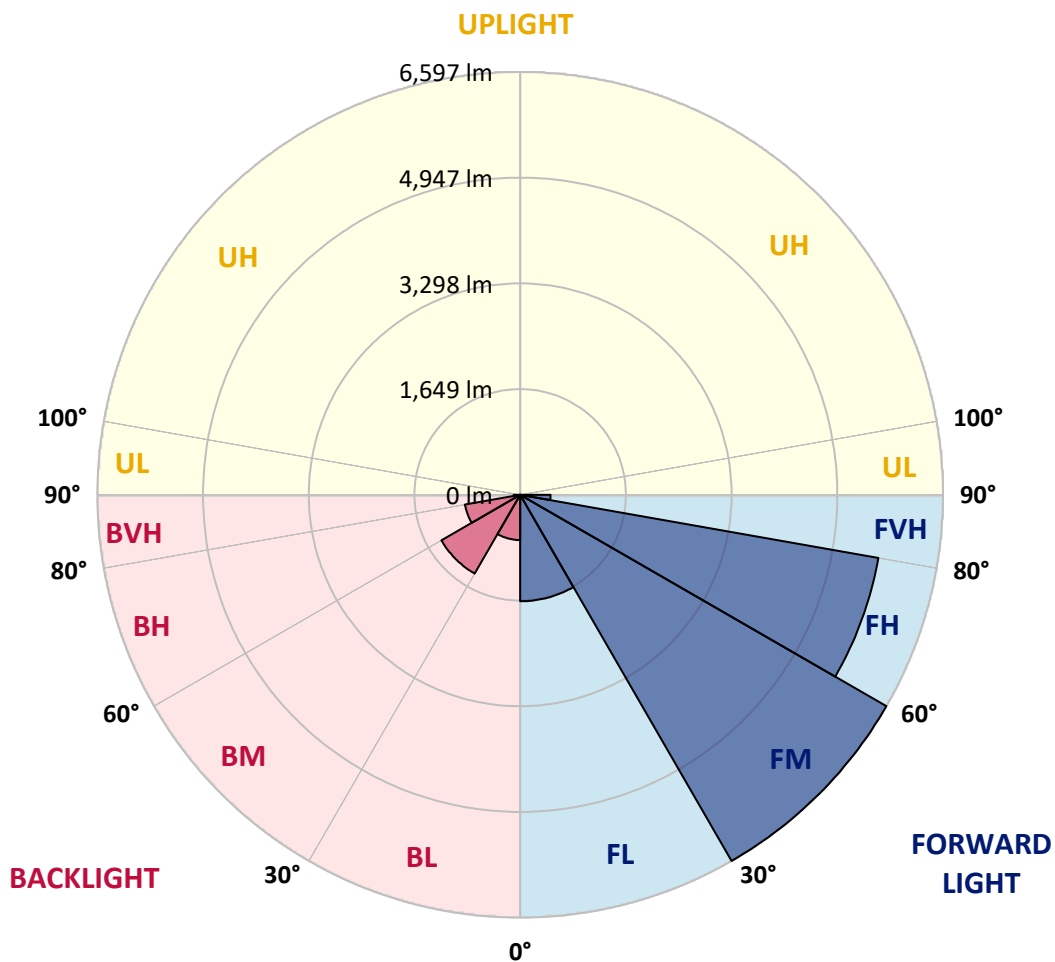
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1661.7	9.5			
FM	(30°-60°)	6596.6	37.7			
FH	(60°-80°)	5674.4	32.4			G3/7500
FVH	(80°-90°)	474.6	2.7			G3/500
BL	(0°-30°)	705.7	4.0	B2/1000		
BM	(30°-60°)	1419.2	8.1	B2/2500		
BH	(60°-80°)	874.6	5.0	B2/1000		G2/1000
BVH	(80°-90°)	102.3	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°	5969.2	5969.2	5969.2	5969.2	5969.2	5969.2	5969.2	5969.2	5969.2	5969.2	5969.2
2.5°	6162.1	6292.9	6442.7	6638.2	6771.5	6824.8	6869.2	6794.3	6722.0	6586.1	6537.9
5°	5755.9	6007.3	6419.8	6812.1	7157.4	7355.5	7416.4	7278.0	7031.7	6676.3	6488.4
7.5°	5152.9	5484.2	6064.4	6642.0	7137.1	7467.2	7491.3	7217.1	6732.1	6149.4	5844.8
10°	4626.0	5000.5	5672.1	6318.3	6842.6	7180.3	7114.3	6729.6	6144.4	5481.7	5137.6
12.5°	4320.1	4694.6	5378.9	6035.2	6529.0	6657.2	6522.7	6198.9	5644.2	4980.2	4633.7
15°	4255.3	4641.3	5274.8	5828.3	6134.2	6051.7	5918.4	5754.6	5359.8	4816.5	4481.3
17.5°	4450.9	4882.5	5413.1	5716.5	5703.8	5505.8	5394.1	5425.8	5358.5	4994.2	4643.8
20°	4853.3	5363.6	5764.8	5686.1	5361.1	5083.1	5018.3	5267.1	5578.2	5439.8	5055.1
22.5°	5382.7	5964.1	6244.6	5773.7	5182.1	4882.5	4869.8	5258.2	5978.1	6113.9	5645.4
25°	5980.6	6658.5	6728.3	5928.5	5163.0	4864.7	4853.3	5395.4	6459.2	6781.6	6306.9
27.5°	6711.8	7359.3	7132.0	6135.5	5246.8	4916.8	4924.4	5628.9	6960.6	7441.8	7052.0
30°	7262.8	7856.9	7380.8	6338.6	5381.4	5008.2	5027.2	5881.6	7231.0	7900.1	7647.4
32.5°	7778.2	8282.2	7619.5	6539.2	5578.2	5144.0	5210.0	6196.4	7556.0	8293.6	8209.8
35°	8348.2	8758.2	7884.8	6753.7	5860.0	5382.7	5477.9	6496.0	7878.5	8687.2	8767.1
37.5°	8994.4	9302.9	8173.0	7057.1	6266.2	5824.4	5877.8	6802.0	8103.2	9122.6	9365.1
40°	9667.2	9913.5	8487.8	7462.1	6856.5	6421.1	6446.5	7194.2	8279.6	9573.3	9945.2
42.5°	10244.8	10436.5	8803.9	7964.8	7534.5	7029.2	7050.8	7617.0	8448.5	9961.7	10409.9
45°	10706.9	10847.8	9102.3	8494.2	8258.1	7788.4	7783.3	8047.3	8674.5	10289.3	10766.6
47.5°	11137.3	11212.2	9434.9	9009.6	9008.3	8765.9	8584.3	8555.1	8975.3	10564.7	11077.6
50°	11629.8	11657.8	9874.1	9530.1	9924.9	9886.8	9551.7	9200.0	9365.1	10874.5	11403.9
52.5°	12315.4	12316.6	10418.7	10037.9	10936.7	11057.3	10667.6	9930.0	9941.4	11477.5	11967.5
55°	13121.5	13177.4	11128.4	10646.0	11995.5	12201.1	11834.2	10797.1	10769.1	12449.9	12881.6
57.5°	13744.8	14040.6	11954.8	11406.4	12984.4	13252.3	12956.5	11695.9	11786.0	13452.8	13635.6
60°	13920.0	14611.9	12778.7	12259.5	13821.0	14223.4	13922.6	12667.0	12781.3	14104.1	13852.7
62.5°	13710.5	14796.0	13617.9	13023.8	14317.4	14703.3	14487.5	13303.0	13592.5	14020.3	13485.8
65°	13089.8	14529.4	14346.6	13348.7	14031.7	14168.8	14111.7	13336.0	14033.0	13228.1	12471.5
67.5°	11640.0	13501.1	14021.6	12654.3	12697.5	12550.2	12475.3	12429.6	13537.9	11949.8	10872.0
70°	9466.6	11600.6	12471.5	10590.1	10270.2	10128.0	9881.8	10491.1	12168.1	10181.4	8947.4
72.5°	7292.0	8875.0	10229.6	8028.3	7363.1	7411.3	7132.0	8021.9	10079.8	7870.9	6831.2
75°	5178.3	6051.7	8165.4	5768.6	4887.6	4885.0	4863.4	5773.7	7953.4	5649.3	4998.0
77.5°	3732.3	4356.9	6397.0	3860.5	3468.3	3512.7	3441.6	3924.0	6200.2	4063.7	3703.1
80°	2977.0	3225.8	4134.7	2574.5	2582.2	2686.3	2671.0	2683.7	4078.9	2942.7	2768.8
82.5°	2139.1	2448.9	3161.0	1972.8	1707.5	1817.9	1839.5	1990.6	2877.9	2080.7	1825.5
85°	1096.8	1492.9	2908.4	1708.7	1067.6	884.8	1018.1	1570.4	2499.6	1246.6	889.9
87.5°	213.3	413.9	2131.5	949.6	479.9	242.5	399.9	665.2	1453.6	226.0	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°	5969.2	5969.2	5969.2	5969.2	5969.2	5969.2	5969.2	5969.2	5969.2	5969.2	5969.2
2.5°	6455.4	6292.9	6140.5	5983.1	5861.3	5712.7	5566.7	5439.8	5316.6	5235.4	5260.8
5°	6298.0	5901.9	5546.4	5216.4	5023.4	4791.1	4584.1	4410.2	4275.7	4189.3	4241.4
7.5°	5580.7	5045.0	4576.5	4141.1	3866.9	3566.0	3324.8	3154.7	3050.6	2992.2	3077.3
10°	4846.9	4245.2	3719.6	3266.4	2996.0	2740.8	2522.5	2342.2	2202.6	2136.6	2170.8
12.5°	4321.4	3652.3	3101.4	2796.7	2564.4	2335.9	2109.9	1899.2	1721.4	1640.2	1623.7
15°	4124.6	3333.7	2771.3	2431.1	2200.0	1951.2	1707.5	1481.5	1312.7	1242.8	1227.6
17.5°	4210.9	3265.1	2575.8	2173.4	1838.2	1536.1	1261.9	1048.6	924.2	884.8	888.6
20°	4514.3	3290.5	2418.4	1908.1	1494.2	1136.2	862.0	714.7	661.4	652.5	662.7
22.5°	4930.7	3394.6	2304.1	1679.5	1190.8	826.4	641.1	571.3	557.3	556.0	566.2
25°	5480.4	3597.7	2228.0	1476.4	940.7	655.1	558.6	519.2	507.8	510.3	520.5
27.5°	6127.9	3855.5	2178.5	1301.2	773.1	584.0	521.8	487.5	476.1	478.6	486.2
30°	6719.4	4081.4	2104.8	1169.2	694.4	558.6	501.5	467.2	451.9	451.9	457.0
32.5°	7248.8	4276.9	2018.5	1070.2	622.1	501.5	454.5	427.8	416.4	420.2	422.7
35°	7718.5	4379.8	1951.2	1011.8	563.7	462.1	415.1	387.2	372.0	374.5	378.3
37.5°	8180.6	4419.1	1906.8	980.1	521.8	438.0	394.8	372.0	355.5	352.9	351.7
40°	8619.9	4410.2	1864.9	971.2	493.8	420.2	382.1	361.8	345.3	341.5	340.2
42.5°	8999.5	4381.0	1825.5	947.0	474.8	407.5	372.0	354.2	337.7	332.6	330.1
45°	9346.0	4363.3	1782.4	902.6	484.9	402.4	366.9	347.8	332.6	326.3	323.7
47.5°	9730.7	4426.7	1734.1	854.4	482.4	403.7	366.9	345.3	330.1	323.7	321.2
50°	10189.0	4641.3	1674.5	788.4	459.6	431.6	365.6	341.5	327.5	323.7	318.6
52.5°	10836.4	4989.1	1591.9	703.3	441.8	460.8	364.3	335.1	323.7	317.4	311.0
55°	11723.8	5337.0	1485.3	613.2	413.9	440.5	366.9	327.5	314.8	308.5	300.9
57.5°	12451.2	5601.0	1350.7	538.3	388.5	416.4	363.1	318.6	304.7	298.3	292.0
60°	12404.2	5626.4	1222.5	490.0	373.2	374.5	372.0	312.3	295.8	290.7	285.6
62.5°	11636.2	5312.8	1103.2	465.9	361.8	341.5	379.6	304.7	286.9	281.8	278.0
65°	10357.8	4582.9	1039.7	465.9	351.7	323.7	331.3	294.5	278.0	272.9	270.4
67.5°	8736.7	3682.8	980.1	476.1	337.7	311.0	300.9	284.4	269.1	264.1	261.5
70°	7002.5	2898.3	938.2	471.0	325.0	297.1	284.4	270.4	255.2	253.9	251.4
72.5°	5493.1	2328.3	919.1	471.0	305.9	280.6	267.9	257.7	242.5	241.2	237.4
75°	4401.3	1748.1	840.4	462.1	286.9	259.0	247.6	238.7	223.4	224.7	222.2
77.5°	3408.6	1236.5	702.0	416.4	262.8	234.9	226.0	219.6	201.8	203.1	203.1
80°	2665.9	804.9	544.6	345.3	234.9	206.9	200.6	195.5	176.5	179.0	179.0
82.5°	1826.8	478.6	394.8	278.0	201.8	176.5	175.2	167.6	147.3	148.5	151.1
85°	997.8	314.8	262.8	205.7	158.7	143.5	140.9	137.1	118.1	118.1	119.3
87.5°	184.1	168.8	154.9	135.8	106.6	102.8	99.0	102.8	88.9	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°	5969.2	5969.2	5969.2	5969.2	5969.2	5969.2	5969.2	5969.2	5969.2	5969.2	5969.2
2.5°	5201.1	5113.5	5052.6	4999.3	4871.1	4879.9	4897.7	4923.1	4843.1	4885.0	4937.1
5°	4189.3	4117.0	4062.4	3977.3	3798.3	3734.9	3694.2	3676.5	3557.1	3582.5	3638.4
7.5°	3088.7	3087.4	3068.4	2973.2	2757.3	2626.6	2540.3	2513.6	2440.0	2467.9	2553.0
10°	2174.6	2197.5	2188.6	2103.6	1910.6	1816.6	1797.6	1850.9	1852.2	1906.8	2052.8
12.5°	1571.6	1558.9	1547.5	1477.7	1333.0	1317.7	1360.9	1434.5	1452.3	1510.7	1663.0
15°	1173.0	1142.5	1136.2	1081.6	986.4	1000.4	1032.1	1070.2	1071.5	1112.1	1237.8
17.5°	879.8	879.8	889.9	854.4	785.8	779.5	763.0	752.8	737.6	754.1	822.6
20°	683.0	714.7	740.1	719.8	657.6	627.1	595.4	575.1	563.7	564.9	585.2
22.5°	585.2	610.6	643.6	633.5	581.4	542.1	521.8	507.8	498.9	498.9	510.3
25°	535.7	552.2	582.7	577.6	533.2	501.5	484.9	471.0	460.8	459.6	471.0
27.5°	496.4	506.5	526.8	524.3	478.6	458.3	448.1	439.2	432.9	431.6	443.1
30°	460.8	465.9	476.1	472.3	438.0	417.7	413.9	410.0	406.2	407.5	424.0
32.5°	429.1	432.9	439.2	434.2	401.2	383.4	377.0	372.0	368.2	372.0	391.0
35°	393.5	405.0	412.6	410.0	374.5	352.9	339.0	326.3	321.2	325.0	346.6
37.5°	363.1	382.1	392.3	389.7	352.9	327.5	309.8	307.2	307.2	312.3	333.9
40°	351.7	365.6	374.5	370.7	333.9	308.5	298.3	294.5	295.8	300.9	323.7
42.5°	341.5	354.2	356.7	349.1	312.3	295.8	289.4	284.4	286.9	293.3	316.1
45°	332.6	342.8	341.5	330.1	294.5	283.1	283.1	279.3	280.6	285.6	309.8
47.5°	326.3	331.3	328.8	317.4	281.8	272.9	276.7	276.7	279.3	283.1	307.2
50°	316.1	319.9	317.4	307.2	271.7	264.1	267.9	272.9	275.5	279.3	300.9
52.5°	305.9	308.5	307.2	297.1	261.5	256.4	256.4	261.5	266.6	271.7	290.7
55°	295.8	298.3	299.6	292.0	253.9	248.8	247.6	247.6	252.6	260.2	280.6
57.5°	288.2	288.2	290.7	285.6	246.3	239.9	233.6	234.9	241.2	247.6	267.9
60°	279.3	280.6	284.4	279.3	236.1	226.0	220.9	227.2	229.8	236.1	257.7
62.5°	271.7	271.7	274.2	270.4	227.2	217.1	213.3	219.6	219.6	226.0	247.6
65°	265.3	264.1	264.1	262.8	218.4	208.2	205.7	208.2	209.5	215.8	237.4
67.5°	260.2	253.9	253.9	256.4	209.5	199.3	198.0	198.0	199.3	206.9	226.0
70°	248.8	243.7	242.5	251.4	200.6	187.9	187.9	185.3	187.9	191.7	212.0
72.5°	236.1	232.3	231.0	243.7	191.7	175.2	172.7	171.4	172.7	176.5	195.5
75°	219.6	217.1	219.6	238.7	182.8	161.2	157.4	156.1	156.1	157.4	177.7
77.5°	200.6	198.0	217.1	222.2	177.7	144.7	140.9	138.4	135.8	135.8	158.7
80°	177.7	176.5	209.5	187.9	170.1	126.9	120.6	116.8	114.3	113.0	135.8
82.5°	154.9	152.3	179.0	147.3	140.9	104.1	95.2	87.6	83.8	83.8	104.1
85°	126.9	125.7	140.9	107.9	97.8	76.2	63.5	57.1	52.0	52.0	67.3
87.5°	92.7	90.1	87.6	64.7	49.5	34.3	24.1	22.9	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°	5969.2	5969.2	5969.2	5969.2	5969.2	5969.2	5969.2	5969.2
2.5°	5014.5	5119.9	5319.2	5483.0	5701.3	5876.5	6075.8	6162.1
5°	3741.2	3907.5	4212.2	4472.4	4833.0	5166.8	5547.7	5755.9
7.5°	2683.7	2930.0	3161.0	3486.0	3936.7	4384.8	4877.4	5152.9
10°	2220.3	2446.3	2644.4	2875.4	3223.2	3727.2	4315.0	4626.0
12.5°	1839.5	2083.2	2292.7	2540.3	2832.2	3288.0	3958.3	4320.1
15°	1410.4	1675.7	1927.1	2225.4	2583.4	3103.9	3851.6	4255.3
17.5°	966.1	1250.5	1560.2	1924.6	2356.2	3026.5	3953.2	4450.9
20°	656.3	864.5	1200.9	1632.6	2151.8	2989.7	4176.6	4853.3
22.5°	539.5	633.5	886.1	1358.4	1984.2	3030.3	4539.7	5382.7
25°	495.1	545.9	689.3	1117.2	1856.0	3138.2	5031.0	5980.6
27.5°	467.2	510.3	604.3	944.5	1737.9	3285.5	5628.9	6711.8
30°	450.7	491.3	570.0	855.6	1630.0	3412.4	6143.1	7262.8
32.5°	413.9	444.3	509.1	804.9	1552.6	3515.2	6596.3	7778.2
35°	369.4	406.2	459.6	771.9	1550.1	3563.5	7022.8	8348.2
37.5°	352.9	388.5	427.8	754.1	1565.3	3604.1	7544.6	8994.4
40°	342.8	374.5	406.2	751.5	1578.0	3635.8	8054.9	9667.2
42.5°	333.9	365.6	402.4	733.8	1572.9	3679.0	8506.9	10244.8
45°	331.3	363.1	411.3	707.1	1571.6	3746.3	8866.2	10706.9
47.5°	328.8	377.0	408.8	677.9	1566.6	3888.5	9271.1	11137.3
50°	326.3	402.4	391.0	637.3	1528.5	4130.9	9815.7	11629.8
52.5°	325.0	406.2	372.0	581.4	1459.9	4490.2	10613.0	12315.4
55°	319.9	385.9	339.0	507.8	1360.9	4877.4	11467.4	13121.5
57.5°	308.5	344.0	319.9	435.4	1218.7	5147.8	12098.3	13744.8
60°	336.4	295.8	307.2	398.6	1048.6	5196.0	12126.2	13920.0
62.5°	321.2	269.1	294.5	385.9	929.3	4881.2	11571.4	13710.5
65°	256.4	255.2	283.1	398.6	911.5	4176.6	10634.6	13089.8
67.5°	233.6	245.0	271.7	413.9	922.9	3290.5	9255.9	11640.0
70°	218.4	232.3	256.4	427.8	943.2	2592.3	7451.9	9466.6
72.5°	203.1	214.5	241.2	441.8	929.3	2045.2	5964.1	7292.0
75°	184.1	194.2	219.6	405.0	797.2	1503.1	4739.0	5178.3
77.5°	162.5	171.4	193.0	319.9	599.2	1046.1	3549.5	3732.3
80°	139.6	143.5	160.0	233.6	391.0	625.9	2701.5	2977.0
82.5°	110.4	111.7	121.9	171.4	243.7	399.9	1873.8	2139.1
85°	71.1	73.6	78.7	120.6	163.8	256.4	957.2	1096.8
87.5°	24.1	27.9	27.9	58.4	80.0	142.2	293.3	213.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)