

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: P197195

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197195
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-SLR-8030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT
ELIMINATOR RIGHT 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

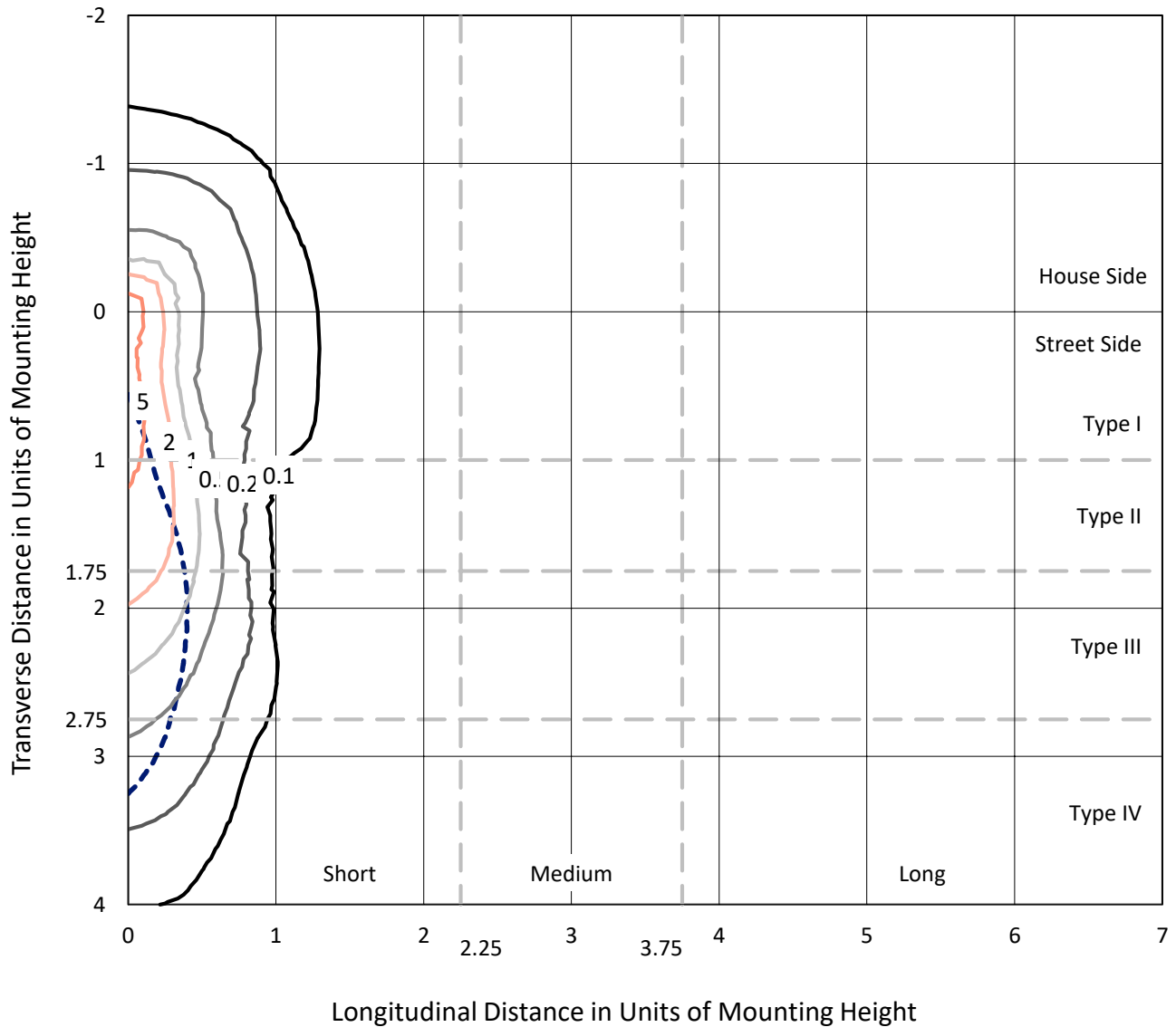


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Iso-Footcandle Lines of Horizontal Illumination

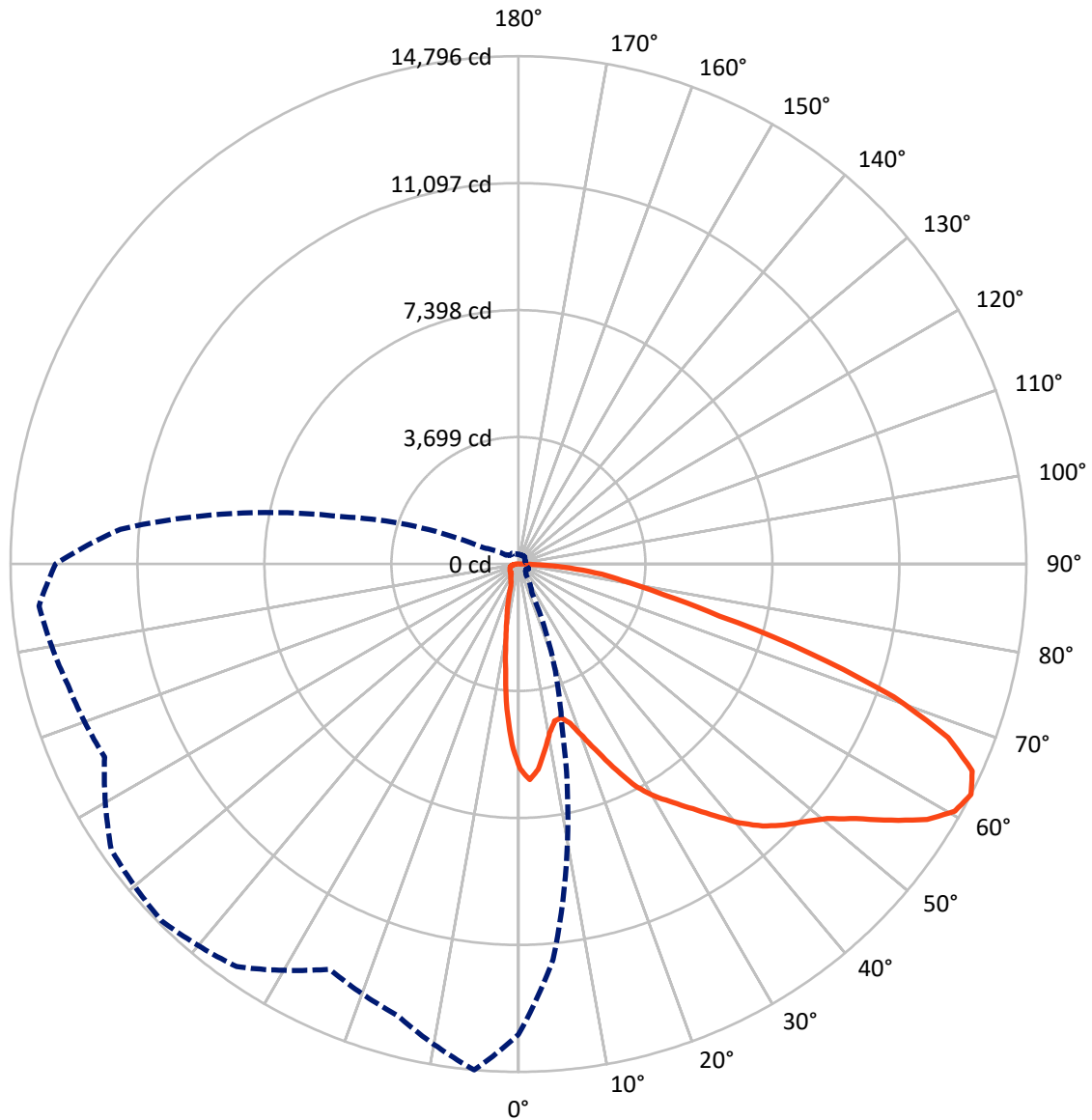
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 9.6 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 355-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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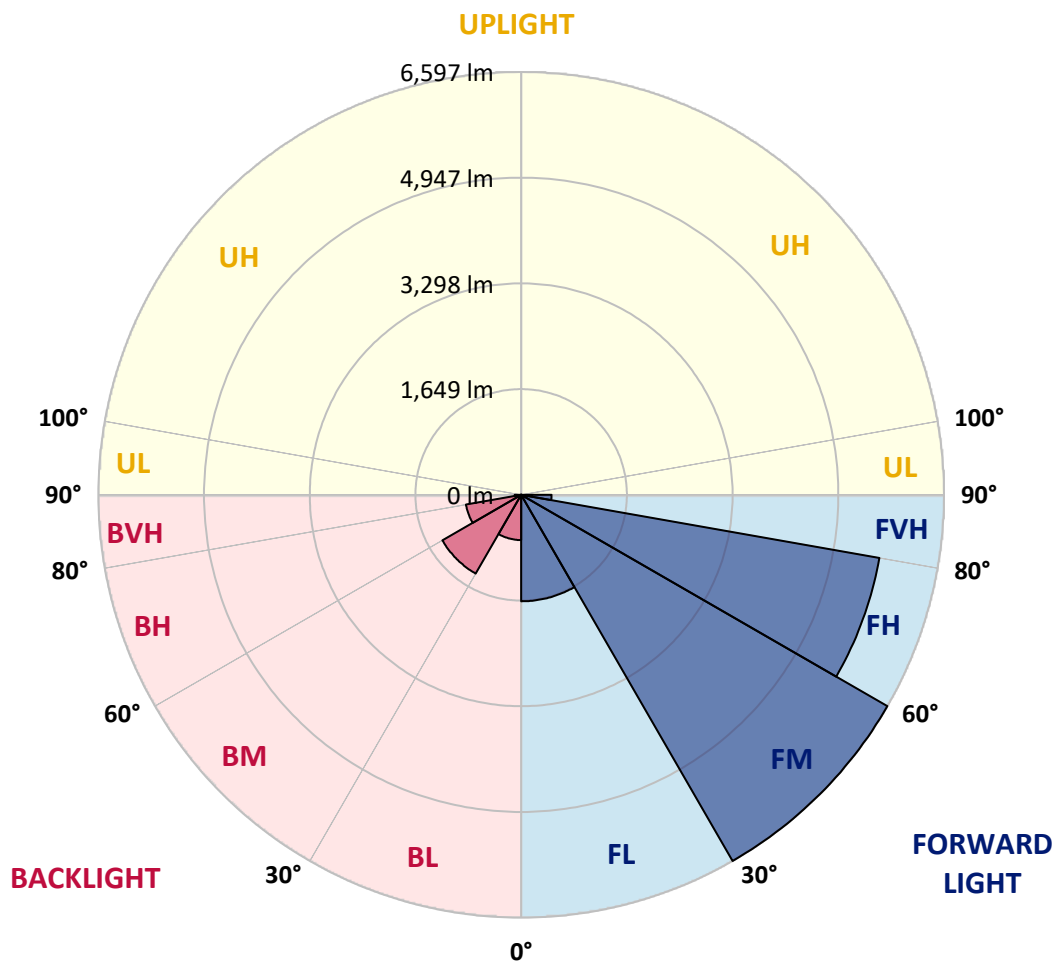
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

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	6075.8	5876.5	5701.3	5483.0	5319.2	5119.9	5014.5	4937.1	4885.0	4843.1
5°	5755.9	5547.7	5166.8	4833.0	4472.4	4212.2	3907.5	3741.2	3638.4	3582.5	3557.1
7.5°	5152.9	4877.4	4384.8	3936.7	3486.0	3161.0	2930.0	2683.7	2553.0	2467.9	2440.0
10°	4626.0	4315.0	3727.2	3223.2	2875.4	2644.4	2446.3	2220.3	2052.8	1906.8	1852.2
12.5°	4320.1	3958.3	3288.0	2832.2	2540.3	2292.7	2083.2	1839.5	1663.0	1510.7	1452.3
15°	4255.3	3851.6	3103.9	2583.4	2225.4	1927.1	1675.7	1410.4	1237.8	1112.1	1071.5
17.5°	4450.9	3953.2	3026.5	2356.2	1924.6	1560.2	1250.5	966.1	822.6	754.1	737.6
20°	4853.3	4176.6	2989.7	2151.8	1632.6	1200.9	864.5	656.3	585.2	564.9	563.7
22.5°	5382.7	4539.7	3030.3	1984.2	1358.4	886.1	633.5	539.5	510.3	498.9	498.9
25°	5980.6	5031.0	3138.2	1856.0	1117.2	689.3	545.9	495.1	471.0	459.6	460.8
27.5°	6711.8	5628.9	3285.5	1737.9	944.5	604.3	510.3	467.2	443.1	431.6	432.9
30°	7262.8	6143.1	3412.4	1630.0	855.6	570.0	491.3	450.7	424.0	407.5	406.2
32.5°	7778.2	6596.3	3515.2	1552.6	804.9	509.1	444.3	413.9	391.0	372.0	368.2
35°	8348.2	7022.8	3563.5	1550.1	771.9	459.6	406.2	369.4	346.6	325.0	321.2
37.5°	8994.4	7544.6	3604.1	1565.3	754.1	427.8	388.5	352.9	333.9	312.3	307.2
40°	9667.2	8054.9	3635.8	1578.0	751.5	406.2	374.5	342.8	323.7	300.9	295.8
42.5°	10244.8	8506.9	3679.0	1572.9	733.8	402.4	365.6	333.9	316.1	293.3	286.9
45°	10706.9	8866.2	3746.3	1571.6	707.1	411.3	363.1	331.3	309.8	285.6	280.6
47.5°	11137.3	9271.1	3888.5	1566.6	677.9	408.8	377.0	328.8	307.2	283.1	279.3
50°	11629.8	9815.7	4130.9	1528.5	637.3	391.0	402.4	326.3	300.9	279.3	275.5
52.5°	12315.4	10613.0	4490.2	1459.9	581.4	372.0	406.2	325.0	290.7	271.7	266.6
55°	13121.5	11467.4	4877.4	1360.9	507.8	339.0	385.9	319.9	280.6	260.2	252.6
57.5°	13744.8	12098.3	5147.8	1218.7	435.4	319.9	344.0	308.5	267.9	247.6	241.2
60°	13920.0	12126.2	5196.0	1048.6	398.6	307.2	295.8	336.4	257.7	236.1	229.8
62.5°	13710.5	11571.4	4881.2	929.3	385.9	294.5	269.1	321.2	247.6	226.0	219.6
65°	13089.8	10634.6	4176.6	911.5	398.6	283.1	255.2	256.4	237.4	215.8	209.5
67.5°	11640.0	9255.9	3290.5	922.9	413.9	271.7	245.0	233.6	226.0	206.9	199.3
70°	9466.6	7451.9	2592.3	943.2	427.8	256.4	232.3	218.4	212.0	191.7	187.9
72.5°	7292.0	5964.1	2045.2	929.3	441.8	241.2	214.5	203.1	195.5	176.5	172.7
75°	5178.3	4739.0	1503.1	797.2	405.0	219.6	194.2	184.1	177.7	157.4	156.1
77.5°	3732.3	3549.5	1046.1	599.2	319.9	193.0	171.4	162.5	158.7	135.8	135.8
80°	2977.0	2701.5	625.9	391.0	233.6	160.0	143.5	139.6	135.8	113.0	114.3
82.5°	2139.1	1873.8	399.9	243.7	171.4	121.9	111.7	110.4	104.1	83.8	83.8
85°	1096.8	957.2	256.4	163.8	120.6	78.7	73.6	71.1	67.3	52.0	52.0
87.5°	213.3	293.3	142.2	80.0	58.4	27.9	27.9	24.1	27.9	19.0	20.3
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°	5969.2	5969.2	5969.2	5969.2	5969.2	5969.2	5969.2	5969.2	5969.2	5969.2	5969.2
2.5°	4923.1	4897.7	4879.9	4871.1	4999.3	5052.6	5113.5	5201.1	5260.8	5235.4	5316.6
5°	3676.5	3694.2	3734.9	3798.3	3977.3	4062.4	4117.0	4189.3	4241.4	4189.3	4275.7
7.5°	2513.6	2540.3	2626.6	2757.3	2973.2	3068.4	3087.4	3088.7	3077.3	2992.2	3050.6
10°	1850.9	1797.6	1816.6	1910.6	2103.6	2188.6	2197.5	2174.6	2170.8	2136.6	2202.6
12.5°	1434.5	1360.9	1317.7	1333.0	1477.7	1547.5	1558.9	1571.6	1623.7	1640.2	1721.4
15°	1070.2	1032.1	1000.4	986.4	1081.6	1136.2	1142.5	1173.0	1227.6	1242.8	1312.7
17.5°	752.8	763.0	779.5	785.8	854.4	889.9	879.8	879.8	888.6	884.8	924.2
20°	575.1	595.4	627.1	657.6	719.8	740.1	714.7	683.0	662.7	652.5	661.4
22.5°	507.8	521.8	542.1	581.4	633.5	643.6	610.6	585.2	566.2	556.0	557.3
25°	471.0	484.9	501.5	533.2	577.6	582.7	552.2	535.7	520.5	510.3	507.8
27.5°	439.2	448.1	458.3	478.6	524.3	526.8	506.5	496.4	486.2	478.6	476.1
30°	410.0	413.9	417.7	438.0	472.3	476.1	465.9	460.8	457.0	451.9	451.9
32.5°	372.0	377.0	383.4	401.2	434.2	439.2	432.9	429.1	422.7	420.2	416.4
35°	326.3	339.0	352.9	374.5	410.0	412.6	405.0	393.5	378.3	374.5	372.0
37.5°	307.2	309.8	327.5	352.9	389.7	392.3	382.1	363.1	351.7	352.9	355.5
40°	294.5	298.3	308.5	333.9	370.7	374.5	365.6	351.7	340.2	341.5	345.3
42.5°	284.4	289.4	295.8	312.3	349.1	356.7	354.2	341.5	330.1	332.6	337.7
45°	279.3	283.1	283.1	294.5	330.1	341.5	342.8	332.6	323.7	326.3	332.6
47.5°	276.7	276.7	272.9	281.8	317.4	328.8	331.3	326.3	321.2	323.7	330.1
50°	272.9	267.9	264.1	271.7	307.2	317.4	319.9	316.1	318.6	323.7	327.5
52.5°	261.5	256.4	256.4	261.5	297.1	307.2	308.5	305.9	311.0	317.4	323.7
55°	247.6	247.6	248.8	253.9	292.0	299.6	298.3	295.8	300.9	308.5	314.8
57.5°	234.9	233.6	239.9	246.3	285.6	290.7	288.2	288.2	292.0	298.3	304.7
60°	227.2	220.9	226.0	236.1	279.3	284.4	280.6	279.3	285.6	290.7	295.8
62.5°	219.6	213.3	217.1	227.2	270.4	274.2	271.7	271.7	278.0	281.8	286.9
65°	208.2	205.7	208.2	218.4	262.8	264.1	264.1	265.3	270.4	272.9	278.0
67.5°	198.0	198.0	199.3	209.5	256.4	253.9	253.9	260.2	261.5	264.1	269.1
70°	185.3	187.9	187.9	200.6	251.4	242.5	243.7	248.8	251.4	253.9	255.2
72.5°	171.4	172.7	175.2	191.7	243.7	231.0	232.3	236.1	237.4	241.2	242.5
75°	156.1	157.4	161.2	182.8	238.7	219.6	217.1	219.6	222.2	224.7	223.4
77.5°	138.4	140.9	144.7	177.7	222.2	217.1	198.0	200.6	203.1	203.1	201.8
80°	116.8	120.6	126.9	170.1	187.9	209.5	176.5	177.7	179.0	179.0	176.5
82.5°	87.6	95.2	104.1	140.9	147.3	179.0	152.3	154.9	151.1	148.5	147.3
85°	57.1	63.5	76.2	97.8	107.9	140.9	125.7	126.9	119.3	118.1	118.1
87.5°	22.9	24.1	34.3	49.5	64.7	87.6	90.1	92.7	86.3	86.3	88.9
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):

	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°	5439.8	5566.7	5712.7	5861.3	5983.1	6140.5	6292.9	6455.4	6537.9	6586.1	6722.0
5°	4410.2	4584.1	4791.1	5023.4	5216.4	5546.4	5901.9	6298.0	6488.4	6676.3	7031.7
7.5°	3154.7	3324.8	3566.0	3866.9	4141.1	4576.5	5045.0	5580.7	5844.8	6149.4	6732.1
10°	2342.2	2522.5	2740.8	2996.0	3266.4	3719.6	4245.2	4846.9	5137.6	5481.7	6144.4
12.5°	1899.2	2109.9	2335.9	2564.4	2796.7	3101.4	3652.3	4321.4	4633.7	4980.2	5644.2
15°	1481.5	1707.5	1951.2	2200.0	2431.1	2771.3	3333.7	4124.6	4481.3	4816.5	5359.8
17.5°	1048.6	1261.9	1536.1	1838.2	2173.4	2575.8	3265.1	4210.9	4643.8	4994.2	5358.5
20°	714.7	862.0	1136.2	1494.2	1908.1	2418.4	3290.5	4514.3	5055.1	5439.8	5578.2
22.5°	571.3	641.1	826.4	1190.8	1679.5	2304.1	3394.6	4930.7	5645.4	6113.9	5978.1
25°	519.2	558.6	655.1	940.7	1476.4	2228.0	3597.7	5480.4	6306.9	6781.6	6459.2
27.5°	487.5	521.8	584.0	773.1	1301.2	2178.5	3855.5	6127.9	7052.0	7441.8	6960.6
30°	467.2	501.5	558.6	694.4	1169.2	2104.8	4081.4	6719.4	7647.4	7900.1	7231.0
32.5°	427.8	454.5	501.5	622.1	1070.2	2018.5	4276.9	7248.8	8209.8	8293.6	7556.0
35°	387.2	415.1	462.1	563.7	1011.8	1951.2	4379.8	7718.5	8767.1	8687.2	7878.5
37.5°	372.0	394.8	438.0	521.8	980.1	1906.8	4419.1	8180.6	9365.1	9122.6	8103.2
40°	361.8	382.1	420.2	493.8	971.2	1864.9	4410.2	8619.9	9945.2	9573.3	8279.6
42.5°	354.2	372.0	407.5	474.8	947.0	1825.5	4381.0	8999.5	10409.9	9961.7	8448.5
45°	347.8	366.9	402.4	484.9	902.6	1782.4	4363.3	9346.0	10766.6	10289.3	8674.5
47.5°	345.3	366.9	403.7	482.4	854.4	1734.1	4426.7	9730.7	11077.6	10564.7	8975.3
50°	341.5	365.6	431.6	459.6	788.4	1674.5	4641.3	10189.0	11403.9	10874.5	9365.1
52.5°	335.1	364.3	460.8	441.8	703.3	1591.9	4989.1	10836.4	11967.5	11477.5	9941.4
55°	327.5	366.9	440.5	413.9	613.2	1485.3	5337.0	11723.8	12881.6	12449.9	10769.1
57.5°	318.6	363.1	416.4	388.5	538.3	1350.7	5601.0	12451.2	13635.6	13452.8	11786.0
60°	312.3	372.0	374.5	373.2	490.0	1222.5	5626.4	12404.2	13852.7	14104.1	12781.3
62.5°	304.7	379.6	341.5	361.8	465.9	1103.2	5312.8	11636.2	13485.8	14020.3	13592.5
65°	294.5	331.3	323.7	351.7	465.9	1039.7	4582.9	10357.8	12471.5	13228.1	14033.0
67.5°	284.4	300.9	311.0	337.7	476.1	980.1	3682.8	8736.7	10872.0	11949.8	13537.9
70°	270.4	284.4	297.1	325.0	471.0	938.2	2898.3	7002.5	8947.4	10181.4	12168.1
72.5°	257.7	267.9	280.6	305.9	471.0	919.1	2328.3	5493.1	6831.2	7870.9	10079.8
75°	238.7	247.6	259.0	286.9	462.1	840.4	1748.1	4401.3	4998.0	5649.3	7953.4
77.5°	219.6	226.0	234.9	262.8	416.4	702.0	1236.5	3408.6	3703.1	4063.7	6200.2
80°	195.5	200.6	206.9	234.9	345.3	544.6	804.9	2665.9	2768.8	2942.7	4078.9
82.5°	167.6	175.2	176.5	201.8	278.0	394.8	478.6	1826.8	1825.5	2080.7	2877.9
85°	137.1	140.9	143.5	158.7	205.7	262.8	314.8	997.8	889.9	1246.6	2499.6
87.5°	102.8	99.0	102.8	106.6	135.8	154.9	168.8	184.1	110.4	226.0	1453.6
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):

	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°	6794.3	6869.2	6824.8	6771.5	6638.2	6442.7	6292.9	6162.1
5°	7278.0	7416.4	7355.5	7157.4	6812.1	6419.8	6007.3	5755.9
7.5°	7217.1	7491.3	7467.2	7137.1	6642.0	6064.4	5484.2	5152.9
10°	6729.6	7114.3	7180.3	6842.6	6318.3	5672.1	5000.5	4626.0
12.5°	6198.9	6522.7	6657.2	6529.0	6035.2	5378.9	4694.6	4320.1
15°	5754.6	5918.4	6051.7	6134.2	5828.3	5274.8	4641.3	4255.3
17.5°	5425.8	5394.1	5505.8	5703.8	5716.5	5413.1	4882.5	4450.9
20°	5267.1	5018.3	5083.1	5361.1	5686.1	5764.8	5363.6	4853.3
22.5°	5258.2	4869.8	4882.5	5182.1	5773.7	6244.6	5964.1	5382.7
25°	5395.4	4853.3	4864.7	5163.0	5928.5	6728.3	6658.5	5980.6
27.5°	5628.9	4924.4	4916.8	5246.8	6135.5	7132.0	7359.3	6711.8
30°	5881.6	5027.2	5008.2	5381.4	6338.6	7380.8	7856.9	7262.8
32.5°	6196.4	5210.0	5144.0	5578.2	6539.2	7619.5	8282.2	7778.2
35°	6496.0	5477.9	5382.7	5860.0	6753.7	7884.8	8758.2	8348.2
37.5°	6802.0	5877.8	5824.4	6266.2	7057.1	8173.0	9302.9	8994.4
40°	7194.2	6446.5	6421.1	6856.5	7462.1	8487.8	9913.5	9667.2
42.5°	7617.0	7050.8	7029.2	7534.5	7964.8	8803.9	10436.5	10244.8
45°	8047.3	7783.3	7788.4	8258.1	8494.2	9102.3	10847.8	10706.9
47.5°	8555.1	8584.3	8765.9	9008.3	9009.6	9434.9	11212.2	11137.3
50°	9200.0	9551.7	9886.8	9924.9	9530.1	9874.1	11657.8	11629.8
52.5°	9930.0	10667.6	11057.3	10936.7	10037.9	10418.7	12316.6	12315.4
55°	10797.1	11834.2	12201.1	11995.5	10646.0	11128.4	13177.4	13121.5
57.5°	11695.9	12956.5	13252.3	12984.4	11406.4	11954.8	14040.6	13744.8
60°	12667.0	13922.6	14223.4	13821.0	12259.5	12778.7	14611.9	13920.0
62.5°	13303.0	14487.5	14703.3	14317.4	13023.8	13617.9	14796.0	13710.5
65°	13336.0	14111.7	14168.8	14031.7	13348.7	14346.6	14529.4	13089.8
67.5°	12429.6	12475.3	12550.2	12697.5	12654.3	14021.6	13501.1	11640.0
70°	10491.1	9881.8	10128.0	10270.2	10590.1	12471.5	11600.6	9466.6
72.5°	8021.9	7132.0	7411.3	7363.1	8028.3	10229.6	8875.0	7292.0
75°	5773.7	4863.4	4885.0	4887.6	5768.6	8165.4	6051.7	5178.3
77.5°	3924.0	3441.6	3512.7	3468.3	3860.5	6397.0	4356.9	3732.3
80°	2683.7	2671.0	2686.3	2582.2	2574.5	4134.7	3225.8	2977.0
82.5°	1990.6	1839.5	1817.9	1707.5	1972.8	3161.0	2448.9	2139.1
85°	1570.4	1018.1	884.8	1067.6	1708.7	2908.4	1492.9	1096.8
87.5°	665.2	399.9	242.5	479.9	949.6	2131.5	413.9	213.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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