

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: P195748

Luminaire Tested: **NAV-AF-04-D-UNV-SLR-7050-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195748
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-04-D-UNV-SLR-7050-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5000K, 615mA 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: 14197 lumens
Efficiency: N/A
Efficacy: 110.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G3

Input Watts (W): 129
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

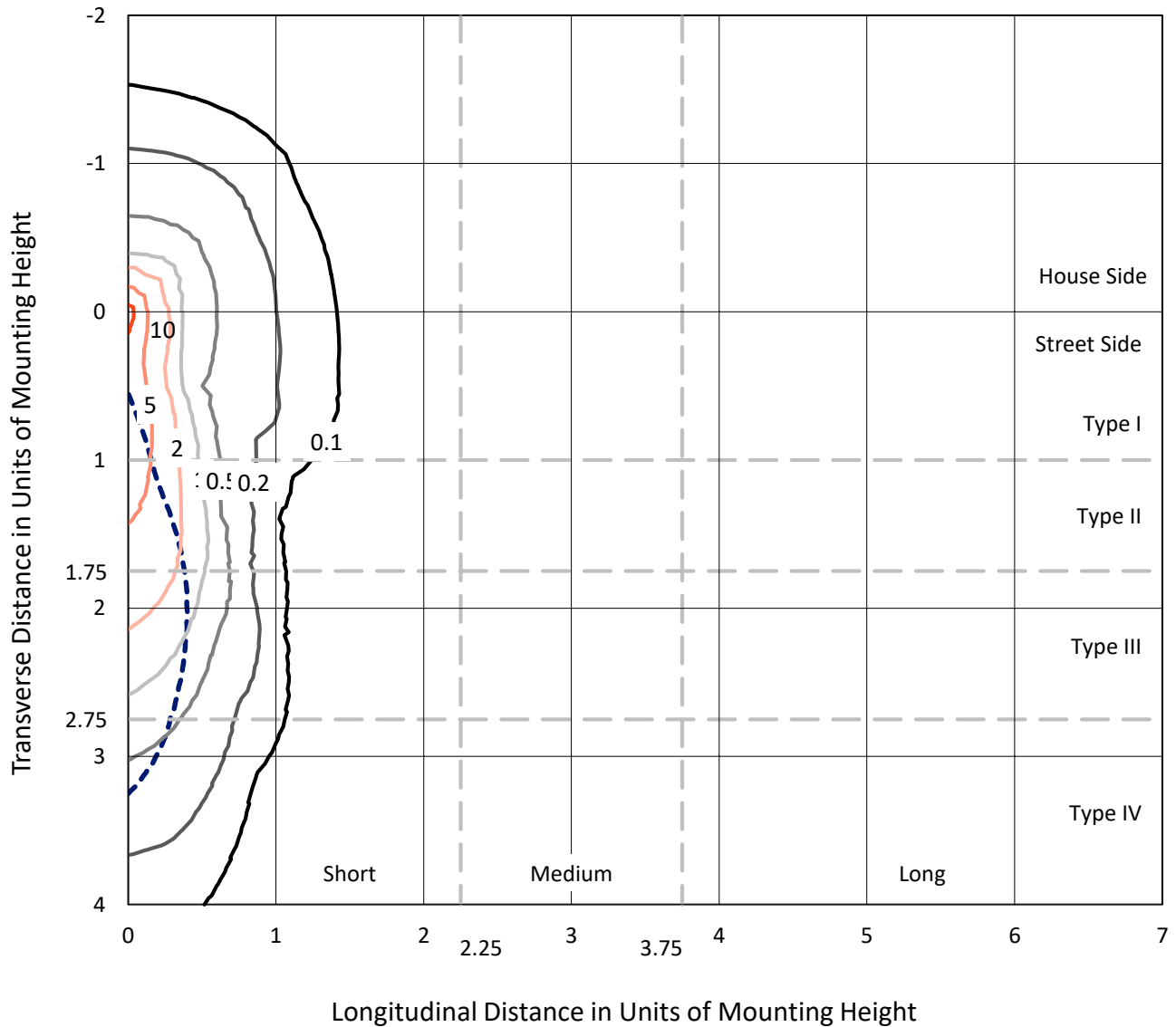


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Iso-Footcandle Lines of Horizontal Illumination

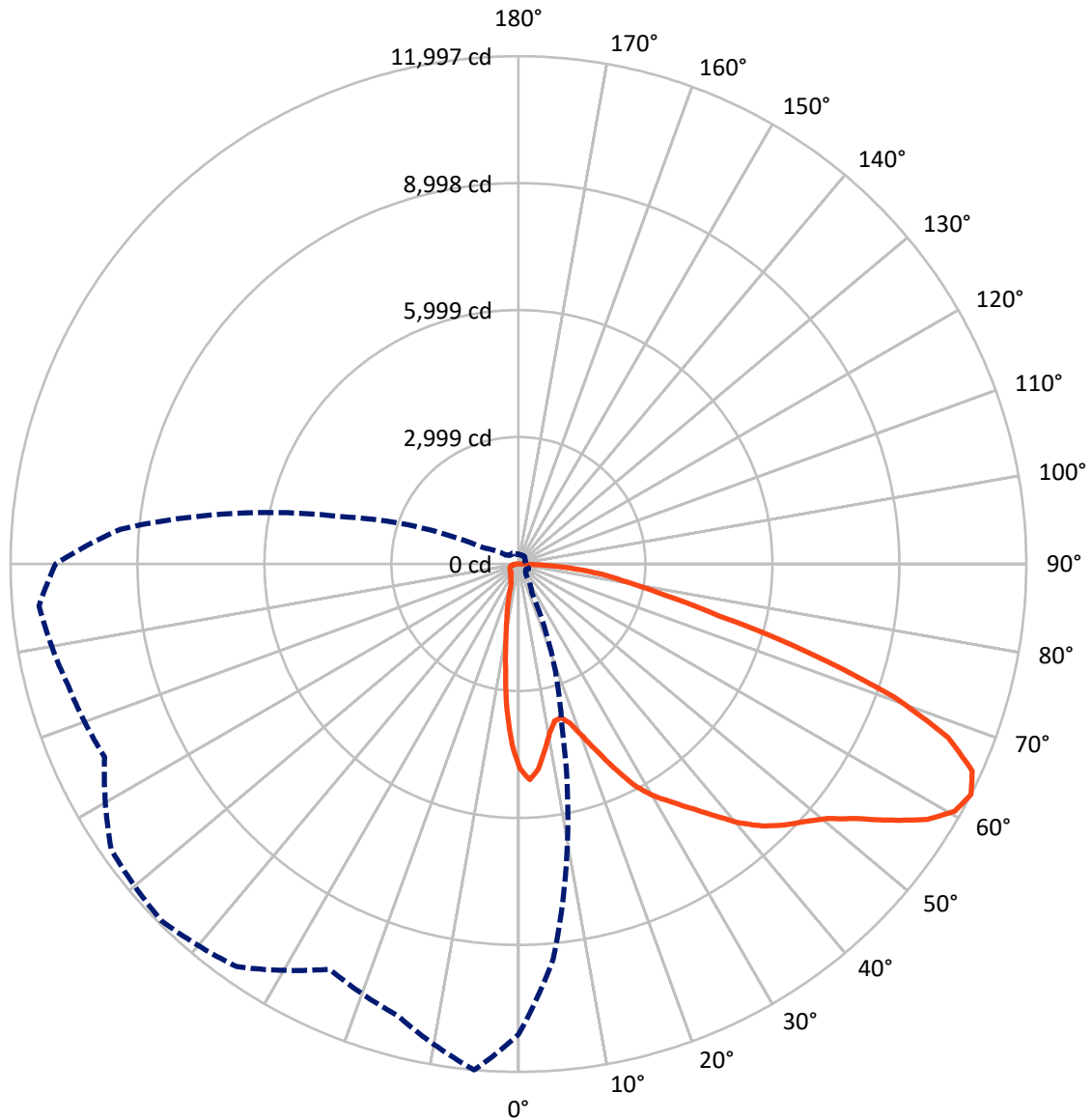
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 12.1 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	2515.0	0.0	2515.0
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	11682.0	0.0	11682.0
	% Fixture	82.3	0.0	82.3
Total	Lumens	14197.0	0.0	14197.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	352.0	2.5
10°-20°	642.9	4.5
20°-30°	924.7	6.5
30°-40°	1416.2	10.0
40°-50°	2070.6	14.6
50°-60°	3012.7	21.2
60°-70°	3490.6	24.6
70°-80°	1819.6	12.8
80°-90°	467.7	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°	14197.0	100.0
0°-180°	14197.0	100.0



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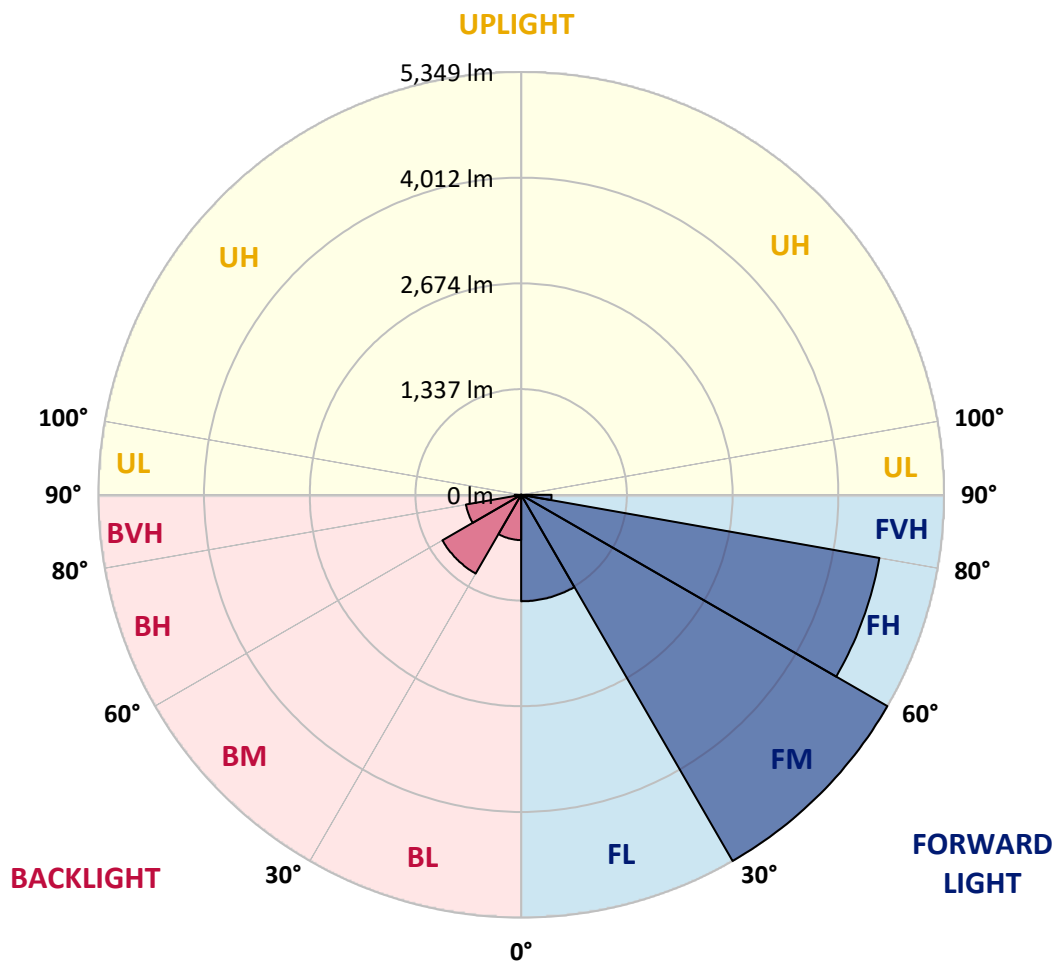
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1347.4	9.5			
FM	(30°-60°)	5348.8	37.7			
FH	(60°-80°)	4601.0	32.4			G2/5000
FVH	(80°-90°)	384.8	2.7			G3/500
BL	(0°-30°)	572.2	4.0	B2/1000		
BM	(30°-60°)	1150.7	8.1	B2/2500		
BH	(60°-80°)	709.2	5.0	B2/1000		G2/1000
BVH	(80°-90°)	82.9	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°	4840.0	4840.0	4840.0	4840.0	4840.0	4840.0	4840.0	4840.0	4840.0	4840.0	4840.0
2.5°	4996.5	4926.5	4764.9	4622.8	4445.8	4313.0	4151.4	4066.0	4003.2	3961.0	3927.0
5°	4667.1	4498.3	4189.5	3918.8	3626.4	3415.4	3168.4	3033.5	2950.1	2904.8	2884.3
7.5°	4178.2	3954.8	3555.4	3192.0	2826.6	2563.1	2375.8	2176.1	2070.0	2001.1	1978.4
10°	3751.0	3498.8	3022.2	2613.5	2331.5	2144.2	1983.6	1800.3	1664.5	1546.1	1501.8
12.5°	3502.9	3209.5	2666.0	2296.5	2059.7	1859.0	1689.2	1491.5	1348.5	1224.9	1177.6
15°	3450.4	3123.1	2516.8	2094.7	1804.5	1562.6	1358.8	1143.6	1003.6	901.7	868.8
17.5°	3608.9	3205.4	2454.0	1910.5	1560.5	1265.1	1013.9	783.3	667.0	611.4	598.1
20°	3935.2	3386.6	2424.1	1744.8	1323.8	973.8	701.0	532.2	474.5	458.1	457.0
22.5°	4364.5	3681.0	2457.1	1608.9	1101.4	718.5	513.6	437.5	413.8	404.5	404.5
25°	4849.3	4079.3	2544.6	1504.9	905.8	558.9	442.6	401.4	381.9	372.6	373.7
27.5°	5442.2	4564.2	2664.0	1409.2	765.8	490.0	413.8	378.8	359.2	350.0	351.0
30°	5889.0	4981.1	2766.9	1321.7	693.8	462.2	398.4	365.4	343.8	330.4	329.4
32.5°	6306.9	5348.5	2850.3	1258.9	652.6	412.8	360.3	335.6	317.0	301.6	298.5
35°	6769.1	5694.4	2889.4	1256.8	625.8	372.6	329.4	299.5	281.0	263.5	260.4
37.5°	7293.0	6117.5	2922.3	1269.2	611.4	346.9	315.0	286.2	270.7	253.2	249.1
40°	7838.6	6531.3	2948.1	1279.5	609.4	329.4	303.7	277.9	262.5	244.0	239.8
42.5°	8306.9	6897.7	2983.1	1275.4	595.0	326.3	296.5	270.7	256.3	237.8	232.6
45°	8681.6	7189.0	3037.6	1274.3	573.4	333.5	294.4	268.7	251.2	231.6	227.5
47.5°	9030.6	7517.4	3152.9	1270.2	549.7	331.5	305.7	266.6	249.1	229.5	226.5
50°	9429.9	7959.0	3349.5	1239.3	516.7	317.0	326.3	264.5	244.0	226.5	223.4
52.5°	9985.8	8605.4	3640.8	1183.8	471.4	301.6	329.4	263.5	235.7	220.3	216.2
55°	10639.4	9298.2	3954.8	1103.5	411.7	274.8	312.9	259.4	227.5	211.0	204.8
57.5°	11144.9	9809.8	4174.0	988.2	353.1	259.4	279.0	250.1	217.2	200.7	195.6
60°	11286.9	9832.4	4213.2	850.2	323.2	249.1	239.8	272.8	209.0	191.5	186.3
62.5°	11117.1	9382.6	3957.9	753.5	312.9	238.8	218.2	260.4	200.7	183.2	178.1
65°	10613.7	8622.9	3386.6	739.1	323.2	229.5	206.9	207.9	192.5	175.0	169.8
67.5°	9438.2	7505.0	2668.1	748.3	335.6	220.3	198.7	189.4	183.2	167.8	161.6
70°	7675.9	6042.3	2101.9	764.8	346.9	207.9	188.4	177.0	171.9	155.4	152.3
72.5°	5912.6	4835.9	1658.3	753.5	358.2	195.6	174.0	164.7	158.5	143.1	140.0
75°	4198.8	3842.6	1218.8	646.4	328.4	178.1	157.5	149.3	144.1	127.6	126.6
77.5°	3026.3	2878.1	848.2	485.9	259.4	156.5	139.0	131.8	128.7	110.1	110.1
80°	2413.8	2190.5	507.5	317.0	189.4	129.7	116.3	113.2	110.1	91.6	92.6
82.5°	1734.5	1519.3	324.2	197.6	139.0	98.8	90.6	89.6	84.4	67.9	67.9
85°	889.4	776.1	207.9	132.8	97.8	63.8	59.7	57.6	54.6	42.2	42.2
87.5°	172.9	237.8	115.3	64.8	47.4	22.6	22.6	19.6	22.6	15.4	16.5
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°	4840.0	4840.0	4840.0	4840.0	4840.0	4840.0	4840.0	4840.0	4840.0	4840.0	4840.0
2.5°	3991.8	3971.3	3956.9	3949.6	4053.6	4096.8	4146.3	4217.3	4265.7	4245.1	4311.0
5°	2981.0	2995.4	3028.4	3079.8	3225.0	3293.9	3338.2	3396.9	3439.1	3396.9	3466.9
7.5°	2038.1	2059.7	2129.7	2235.8	2410.8	2488.0	2503.4	2504.4	2495.2	2426.2	2473.5
10°	1500.8	1457.6	1473.0	1549.2	1705.6	1774.6	1781.8	1763.3	1760.2	1732.4	1785.9
12.5°	1163.2	1103.5	1068.5	1080.8	1198.2	1254.8	1264.1	1274.3	1316.5	1329.9	1395.8
15°	867.7	836.9	811.1	799.8	877.0	921.3	926.4	951.1	995.4	1007.7	1064.4
17.5°	610.4	618.6	632.0	637.2	692.8	721.6	713.3	713.3	720.6	717.5	749.4
20°	466.3	482.8	508.5	533.2	583.6	600.1	579.5	553.8	537.3	529.1	536.3
22.5°	411.7	423.1	439.5	471.4	513.6	521.9	495.1	474.5	459.1	450.9	451.9
25°	381.9	393.2	406.6	432.3	468.4	472.5	447.8	434.4	422.0	413.8	411.7
27.5°	356.2	363.4	371.6	388.1	425.1	427.2	410.7	402.5	394.2	388.1	386.0
30°	332.5	335.6	338.7	355.1	382.9	386.0	377.8	373.7	370.6	366.5	366.5
32.5°	301.6	305.7	310.9	325.3	352.0	356.2	351.0	347.9	342.8	340.7	337.6
35°	264.5	274.8	286.2	303.7	332.5	334.5	328.4	319.1	306.7	303.7	301.6
37.5°	249.1	251.2	265.6	286.2	316.0	318.1	309.8	294.4	285.1	286.2	288.2
40°	238.8	241.9	250.1	270.7	300.6	303.7	296.5	285.1	275.9	276.9	280.0
42.5°	230.6	234.7	239.8	253.2	283.1	289.2	287.2	276.9	267.6	269.7	273.8
45°	226.5	229.5	229.5	238.8	267.6	276.9	277.9	269.7	262.5	264.5	269.7
47.5°	224.4	224.4	221.3	228.5	257.3	266.6	268.7	264.5	260.4	262.5	267.6
50°	221.3	217.2	214.1	220.3	249.1	257.3	259.4	256.3	258.4	262.5	265.6
52.5°	212.0	207.9	207.9	212.0	240.9	249.1	250.1	248.1	252.2	257.3	262.5
55°	200.7	200.7	201.8	205.9	236.8	242.9	241.9	239.8	244.0	250.1	255.3
57.5°	190.4	189.4	194.5	199.7	231.6	235.7	233.7	233.7	236.8	241.9	247.0
60°	184.3	179.1	183.2	191.5	226.5	230.6	227.5	226.5	231.6	235.7	239.8
62.5°	178.1	172.9	176.0	184.3	219.3	222.3	220.3	220.3	225.4	228.5	232.6
65°	168.8	166.8	168.8	177.0	213.1	214.1	214.1	215.1	219.3	221.3	225.4
67.5°	160.6	160.6	161.6	169.8	207.9	205.9	205.9	211.0	212.0	214.1	218.2
70°	150.3	152.3	152.3	162.6	203.8	196.6	197.6	201.8	203.8	205.9	206.9
72.5°	139.0	140.0	142.1	155.4	197.6	187.3	188.4	191.5	192.5	195.6	196.6
75°	126.6	127.6	130.7	148.2	193.5	178.1	176.0	178.1	180.1	182.2	181.2
77.5°	112.2	114.3	117.3	144.1	180.1	176.0	160.6	162.6	164.7	164.7	163.7
80°	94.7	97.8	102.9	137.9	152.3	169.8	143.1	144.1	145.1	145.1	143.1
82.5°	71.0	77.2	84.4	114.3	119.4	145.1	123.5	125.6	122.5	120.4	119.4
85°	46.3	51.5	61.8	79.3	87.5	114.3	101.9	102.9	96.8	95.7	95.7
87.5°	18.5	19.6	27.8	40.1	52.5	71.0	73.1	75.1	70.0	70.0	72.1
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°	4840.0	4840.0	4840.0	4840.0	4840.0	4840.0	4840.0	4840.0	4840.0	4840.0	4840.0
2.5°	4410.8	4513.7	4632.1	4752.5	4851.4	4979.0	5102.5	5234.3	5301.2	5340.3	5450.4
5°	3576.0	3717.0	3884.8	4073.2	4229.6	4497.3	4785.5	5106.6	5261.0	5413.4	5701.6
7.5°	2558.0	2695.9	2891.5	3135.4	3357.8	3710.8	4090.7	4525.1	4739.2	4986.2	5458.7
10°	1899.2	2045.3	2222.4	2429.3	2648.5	3016.0	3442.2	3930.1	4165.8	4444.8	4982.1
12.5°	1539.9	1710.8	1894.0	2079.3	2267.7	2514.7	2961.5	3503.9	3757.2	4038.2	4576.5
15°	1201.3	1384.5	1582.1	1783.9	1971.2	2247.1	2703.1	3344.4	3633.6	3905.4	4345.9
17.5°	850.2	1023.2	1245.5	1490.5	1762.3	2088.6	2647.5	3414.4	3765.4	4049.5	4344.9
20°	579.5	698.9	921.3	1211.6	1547.1	1960.9	2668.1	3660.4	4098.9	4410.8	4523.0
22.5°	463.2	519.8	670.1	965.5	1361.8	1868.3	2752.5	3998.0	4577.6	4957.4	4847.2
25°	421.0	452.9	531.1	762.8	1197.1	1806.5	2917.2	4443.7	5113.8	5498.8	5237.4
27.5°	395.3	423.1	473.5	626.9	1055.1	1766.4	3126.2	4968.7	5718.1	6034.1	5644.0
30°	378.8	406.6	452.9	563.1	948.0	1706.7	3309.4	5448.4	6200.9	6405.7	5863.2
32.5°	346.9	368.5	406.6	504.4	867.7	1636.7	3467.9	5877.6	6656.9	6724.8	6126.7
35°	314.0	336.6	374.7	457.0	820.4	1582.1	3551.3	6258.5	7108.7	7043.9	6388.2
37.5°	301.6	320.1	355.1	423.1	794.7	1546.1	3583.2	6633.2	7593.6	7397.0	6570.4
40°	293.4	309.8	340.7	400.4	787.5	1512.1	3576.0	6989.3	8064.0	7762.4	6713.5
42.5°	287.2	301.6	330.4	385.0	767.9	1480.2	3552.3	7297.1	8440.7	8077.4	6850.4
45°	282.0	297.5	326.3	393.2	731.9	1445.2	3537.9	7578.1	8730.0	8342.9	7033.6
47.5°	280.0	297.5	327.3	391.2	692.8	1406.1	3589.4	7890.0	8982.2	8566.3	7277.6
50°	276.9	296.5	350.0	372.6	639.2	1357.7	3763.3	8261.6	9246.7	8817.5	7593.6
52.5°	271.8	295.4	373.7	358.2	570.3	1290.8	4045.4	8786.6	9703.8	9306.4	8060.9
55°	265.6	297.5	357.2	335.6	497.2	1204.3	4327.4	9506.1	10444.9	10094.9	8732.0
57.5°	258.4	294.4	337.6	315.0	436.4	1095.2	4541.5	10095.9	11056.3	10908.1	9556.6
60°	253.2	301.6	303.7	302.6	397.3	991.3	4562.1	10057.9	11232.4	11436.2	10363.6
62.5°	247.0	307.8	276.9	293.4	377.8	894.5	4307.9	9435.1	10934.9	11368.2	11021.3
65°	238.8	268.7	262.5	285.1	377.8	843.0	3716.0	8398.5	10112.4	10725.9	11378.5
67.5°	230.6	244.0	252.2	273.8	386.0	794.7	2986.2	7084.0	8815.4	9689.3	10977.1
70°	219.3	230.6	240.9	263.5	381.9	760.7	2350.0	5677.9	7254.9	8255.4	9866.4
72.5°	209.0	217.2	227.5	248.1	381.9	745.3	1887.8	4454.0	5539.0	6382.0	8173.1
75°	193.5	200.7	210.0	232.6	374.7	681.4	1417.4	3568.8	4052.6	4580.6	6448.9
77.5°	178.1	183.2	190.4	213.1	337.6	569.2	1002.6	2763.8	3002.6	3295.0	5027.4
80°	158.5	162.6	167.8	190.4	280.0	441.6	652.6	2161.7	2245.0	2386.1	3307.3
82.5°	135.9	142.1	143.1	163.7	225.4	320.1	388.1	1481.2	1480.2	1687.1	2333.6
85°	111.2	114.3	116.3	128.7	166.8	213.1	255.3	809.1	721.6	1010.8	2026.8
87.5°	83.4	80.3	83.4	86.5	110.1	125.6	136.9	149.3	89.6	183.2	1178.6
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°	4840.0	4840.0	4840.0	4840.0	4840.0	4840.0	4840.0	4840.0
2.5°	5509.1	5569.9	5533.8	5490.6	5382.5	5224.0	5102.5	4996.5
5°	5901.3	6013.5	5964.1	5803.5	5523.5	5205.5	4870.9	4667.1
7.5°	5851.9	6074.2	6054.7	5787.0	5385.6	4917.2	4446.8	4178.2
10°	5456.6	5768.5	5822.0	5548.2	5123.1	4599.2	4054.6	3751.0
12.5°	5026.4	5288.8	5398.0	5294.0	4893.6	4361.4	3806.6	3502.9
15°	4666.1	4798.9	4906.9	4973.9	4725.8	4277.0	3763.3	3450.4
17.5°	4399.5	4373.7	4464.3	4624.9	4635.2	4389.2	3958.9	3608.9
20°	4270.8	4069.1	4121.5	4347.0	4610.5	4674.3	4349.0	3935.2
22.5°	4263.6	3948.6	3958.9	4201.8	4681.5	5063.4	4835.9	4364.5
25°	4374.8	3935.2	3944.5	4186.4	4807.1	5455.6	5399.0	4849.3
27.5°	4564.2	3992.9	3986.7	4254.3	4974.9	5782.9	5967.2	5442.2
30°	4769.0	4076.3	4060.8	4363.4	5139.6	5984.7	6370.7	5889.0
32.5°	5024.3	4224.5	4171.0	4523.0	5302.2	6178.2	6715.5	6306.9
35°	5267.2	4441.7	4364.5	4751.5	5476.2	6393.3	7101.5	6769.1
37.5°	5515.3	4765.9	4722.7	5080.9	5722.2	6627.0	7543.1	7293.0
40°	5833.4	5227.1	5206.5	5559.6	6050.6	6882.3	8038.3	7838.6
42.5°	6176.1	5717.1	5699.6	6109.2	6458.2	7138.6	8462.3	8306.9
45°	6525.1	6311.0	6315.1	6696.0	6887.4	7380.5	8795.9	8681.6
47.5°	6936.8	6960.5	7107.7	7304.3	7305.4	7650.2	9091.3	9030.6
50°	7459.8	7744.9	8016.6	8047.5	7727.4	8006.3	9452.6	9429.9
52.5°	8051.6	8649.7	8965.7	8867.9	8139.1	8447.9	9986.8	9985.8
55°	8754.7	9595.7	9893.2	9726.4	8632.2	9023.3	10684.7	10639.4
57.5°	9483.5	10505.6	10745.5	10528.3	9248.8	9693.5	11384.7	11144.9
60°	10270.9	11289.0	11532.9	11206.6	9940.5	10361.5	11847.9	11286.9
62.5°	10786.6	11747.0	11922.0	11609.1	10560.2	11041.9	11997.2	11117.1
65°	10813.4	11442.3	11488.7	11377.5	10823.7	11632.8	11781.0	10613.7
67.5°	10078.4	10115.5	10176.2	10295.6	10260.6	11369.3	10947.2	9438.2
70°	8506.6	8012.5	8212.2	8327.5	8586.9	10112.4	9406.3	7675.9
72.5°	6504.5	5782.9	6009.4	5970.3	6509.7	8294.6	7196.2	5912.6
75°	4681.5	3943.5	3961.0	3963.0	4677.4	6620.8	4906.9	4198.8
77.5°	3181.7	2790.6	2848.2	2812.2	3130.3	5186.9	3532.8	3026.3
80°	2176.1	2165.8	2178.1	2093.7	2087.5	3352.6	2615.6	2413.8
82.5°	1614.0	1491.5	1474.0	1384.5	1599.6	2563.1	1985.6	1734.5
85°	1273.3	825.5	717.5	865.7	1385.5	2358.3	1210.5	889.4
87.5°	539.4	324.2	196.6	389.1	770.0	1728.3	335.6	172.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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