

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: P270453

Luminaire Tested: **NAV-AF-03-D-UNV-SLR-7027**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270453
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-SLR-7027
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 2700K, 1050mA 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: 13899.8 lumens
Efficiency: N/A
Efficacy: 83.7 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

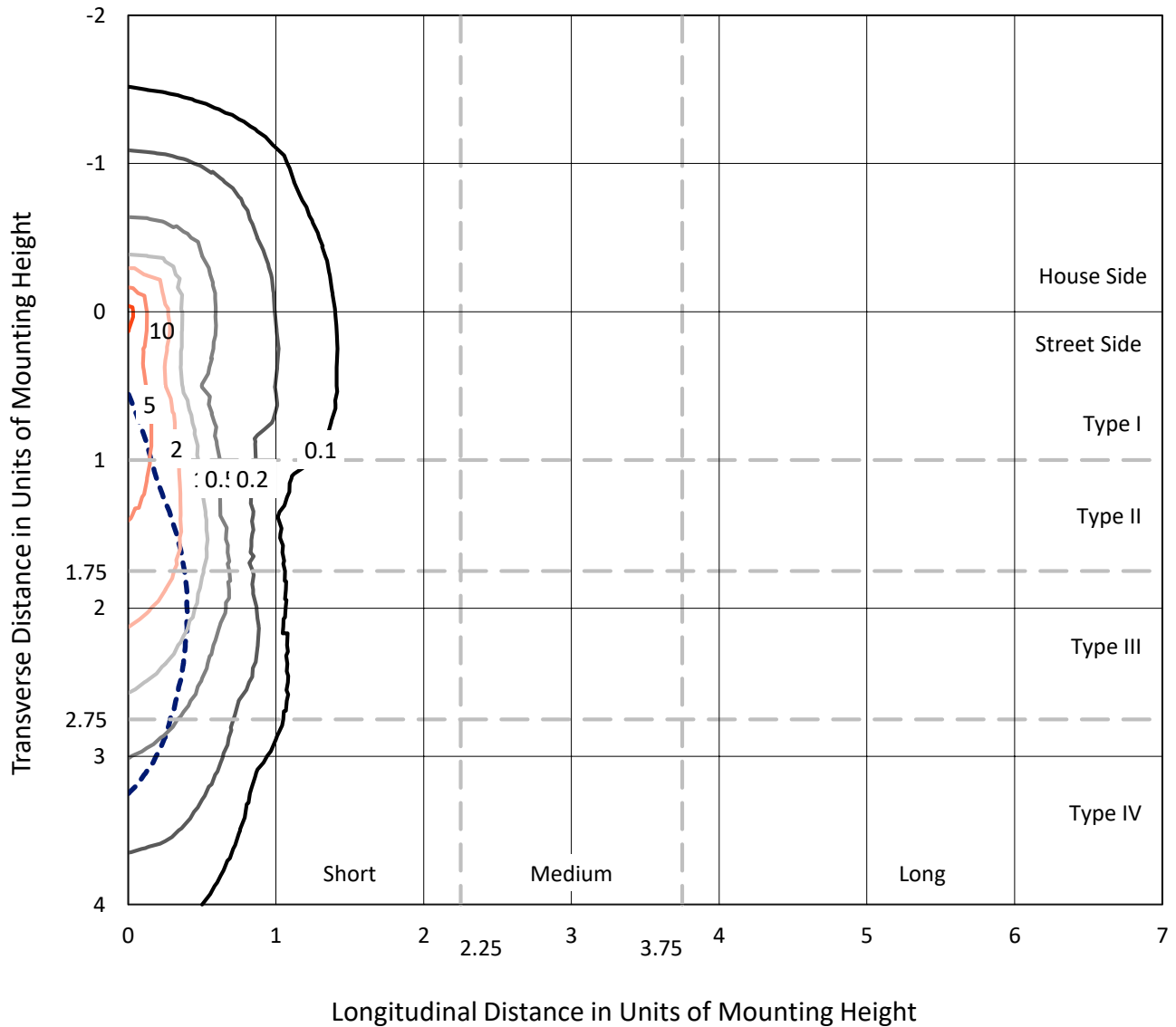
Input Watts (W): 166
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

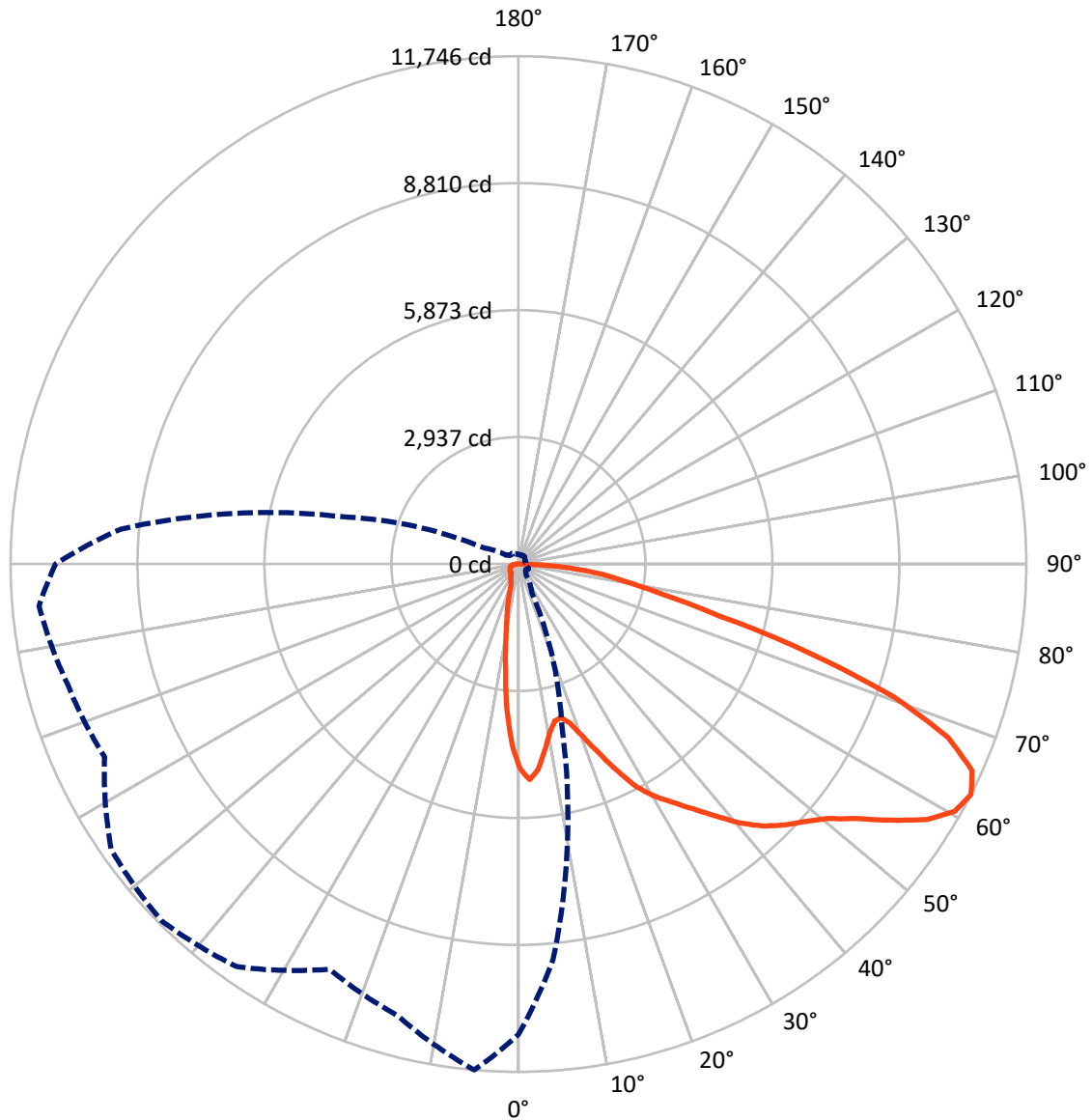
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 11.8 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	2462.4	0.0	2462.4
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	11437.4	0.0	11437.4
	% Fixture	82.3	0.0	82.3
Total	Lumens	13899.8	0.0	13899.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	344.6	2.5
10°-20°	629.4	4.5
20°-30°	905.3	6.5
30°-40°	1386.6	10.0
40°-50°	2027.2	14.6
50°-60°	2949.6	21.2
60°-70°	3417.5	24.6
70°-80°	1781.5	12.8
80°-90°	457.9	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°	13899.8	100.0
0°-180°	13899.8	100.0



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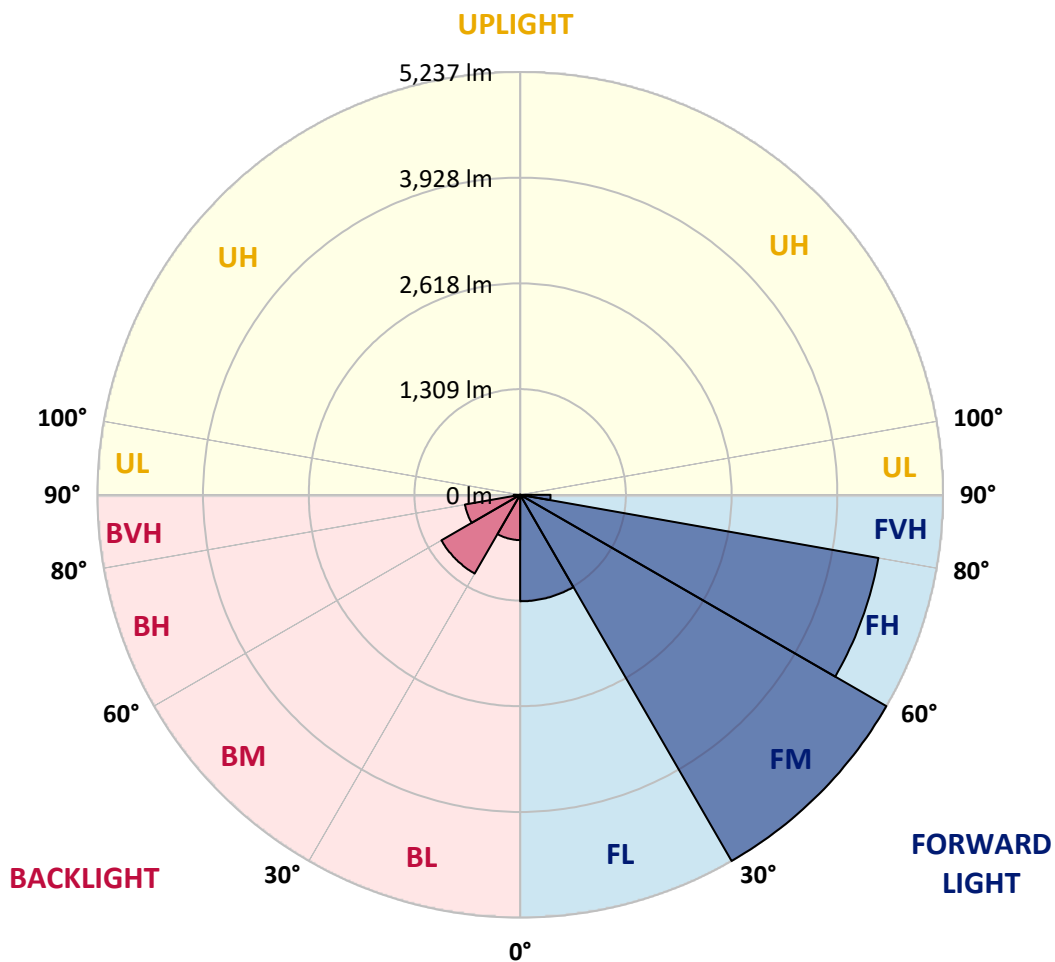
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1319.1	9.5			
FM	(30°-60°)	5236.8	37.7			
FH	(60°-80°)	4504.7	32.4			G2/5000
FVH	(80°-90°)	376.7	2.7			G3/500
BL	(0°-30°)	560.2	4.0	B2/1000		
BM	(30°-60°)	1126.6	8.1	B2/2500		
BH	(60°-80°)	694.3	5.0	B2/1000		G2/1000
BVH	(80°-90°)	81.2	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°	4738.6	4738.6	4738.6	4738.6	4738.6	4738.6	4738.6	4738.6	4738.6	4738.6	4738.6
2.5°	4891.9	4823.4	4665.2	4526.0	4352.6	4222.8	4064.6	3980.7	3919.3	3878.1	3844.7
5°	4569.4	4404.1	4101.8	3836.8	3550.6	3343.9	3102.0	2969.9	2888.4	2844.0	2823.8
7.5°	4090.7	3872.0	3480.9	3125.3	2767.4	2509.4	2326.0	2130.5	2026.7	1959.2	1936.9
10°	3672.5	3425.5	2958.8	2558.8	2282.7	2099.2	1942.0	1762.7	1629.6	1513.7	1470.3
12.5°	3429.5	3142.4	2610.3	2248.4	2016.7	1820.1	1653.8	1460.4	1320.1	1199.2	1153.0
15°	3378.2	3057.7	2464.1	2050.9	1766.6	1529.9	1330.3	1119.6	982.6	882.9	850.5
17.5°	3533.4	3138.3	2402.5	1870.5	1527.8	1238.7	992.6	767.0	653.1	598.6	585.5
20°	3852.8	3315.6	2373.4	1708.2	1296.1	953.5	686.3	521.0	464.7	448.4	447.4
22.5°	4273.1	3603.9	2405.7	1575.2	1078.3	703.5	503.0	428.3	405.1	396.1	396.1
25°	4747.7	3994.0	2491.3	1473.4	886.8	547.2	433.3	393.1	374.0	364.8	365.8
27.5°	5328.2	4468.6	2608.1	1379.6	749.8	479.8	405.1	370.9	351.7	342.7	343.6
30°	5765.6	4876.8	2709.0	1294.0	679.3	452.4	390.0	357.7	336.7	323.5	322.5
32.5°	6174.8	5236.6	2790.7	1232.6	639.0	404.1	352.8	328.5	310.5	295.4	292.3
35°	6627.3	5575.2	2828.9	1230.5	612.7	364.8	322.5	293.2	275.2	258.1	254.9
37.5°	7140.3	5989.4	2861.1	1242.6	598.6	339.6	308.4	280.2	265.1	247.9	243.9
40°	7674.4	6394.6	2886.3	1252.6	596.7	322.5	297.2	272.0	256.9	238.9	234.7
42.5°	8133.0	6753.3	2920.6	1248.6	582.6	319.4	290.2	265.1	250.9	232.8	227.8
45°	8499.9	7038.5	2974.0	1247.7	561.4	326.5	288.3	263.1	245.9	226.7	222.7
47.5°	8841.5	7360.1	3086.8	1243.7	538.2	324.5	299.3	261.0	243.9	224.8	221.7
50°	9232.5	7792.3	3279.4	1213.4	505.9	310.5	319.4	259.0	238.9	221.7	218.6
52.5°	9776.8	8425.3	3564.7	1159.0	461.5	295.4	322.5	258.1	230.8	215.7	211.6
55°	10416.7	9103.6	3872.0	1080.4	403.1	269.1	306.4	254.0	222.7	206.6	200.5
57.5°	10911.5	9604.4	4086.7	967.5	345.7	254.0	273.2	244.9	212.7	196.5	191.5
60°	11050.6	9626.5	4124.9	832.5	316.5	243.9	234.7	267.1	204.5	187.4	182.4
62.5°	10884.4	9186.2	3875.0	737.7	306.4	233.7	213.6	254.9	196.5	179.4	174.4
65°	10391.5	8442.5	3315.6	723.7	316.5	224.8	202.6	203.6	188.5	171.3	166.2
67.5°	9240.5	7347.9	2612.2	732.7	328.5	215.7	194.6	185.4	179.4	164.3	158.2
70°	7515.2	5915.8	2057.9	748.7	339.6	203.6	184.4	173.4	168.3	152.2	149.2
72.5°	5788.9	4734.6	1623.5	737.7	350.7	191.5	170.3	161.2	155.1	140.0	137.0
75°	4110.9	3762.1	1193.3	632.9	321.6	174.4	154.1	146.2	141.2	125.0	124.0
77.5°	2963.0	2817.9	830.5	475.7	254.0	153.3	136.1	128.9	126.0	107.8	107.8
80°	2363.4	2144.7	496.9	310.5	185.4	127.0	113.8	110.9	107.8	89.7	90.6
82.5°	1698.2	1487.6	317.5	193.4	136.1	96.7	88.8	87.7	82.6	66.6	66.6
85°	870.7	759.8	203.6	130.1	95.7	62.5	58.5	56.5	53.4	41.3	41.3
87.5°	169.3	232.8	112.8	63.5	46.4	22.2	22.2	19.1	22.2	15.1	16.1
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	4738.6	4738.6	4738.6	4738.6	4738.6	4738.6	4738.6	4738.6	4738.6	4738.6	4738.6
2.5°	3908.3	3888.1	3874.0	3866.9	3968.7	4011.0	4059.4	4129.0	4176.3	4156.2	4220.6
5°	2918.7	2932.6	2964.9	3015.3	3157.5	3224.9	3268.4	3325.7	3367.0	3325.7	3394.2
7.5°	1995.4	2016.7	2085.1	2189.0	2360.2	2435.8	2450.9	2452.1	2442.9	2375.4	2421.7
10°	1469.4	1427.0	1442.1	1516.8	1669.9	1737.4	1744.5	1726.4	1723.4	1696.1	1748.6
12.5°	1138.8	1080.4	1046.0	1058.3	1173.0	1228.5	1237.5	1247.7	1289.0	1302.2	1366.6
15°	849.5	819.3	794.1	783.1	858.7	902.0	907.0	931.3	974.5	986.7	1042.0
17.5°	597.6	605.6	618.8	623.9	678.2	706.4	698.4	698.4	705.4	702.5	733.6
20°	456.5	472.7	497.8	522.0	571.4	587.5	567.4	542.1	526.0	518.1	525.1
22.5°	403.1	414.2	430.4	461.5	503.0	511.0	484.7	464.7	449.5	441.3	442.4
25°	374.0	385.0	398.0	423.3	458.6	462.5	438.5	425.3	413.2	405.1	403.1
27.5°	348.7	355.8	363.9	380.0	416.3	418.3	402.1	394.0	386.0	380.0	377.9
30°	325.5	328.5	331.6	347.7	375.0	377.9	369.8	365.8	362.8	358.8	358.8
32.5°	295.4	299.3	304.3	318.4	344.7	348.7	343.6	340.6	335.5	333.6	330.5
35°	259.0	269.1	280.2	297.2	325.5	327.5	321.6	312.4	300.4	297.2	295.4
37.5°	243.9	245.9	260.0	280.2	309.3	311.4	303.4	288.3	279.2	280.2	282.2
40°	233.7	236.9	244.9	265.1	294.3	297.2	290.2	279.2	270.1	271.1	274.2
42.5°	225.7	229.7	234.7	247.9	277.1	283.1	281.2	271.1	262.0	264.0	268.1
45°	221.7	224.8	224.8	233.7	262.0	271.1	272.0	264.0	256.9	259.0	264.0
47.5°	219.6	219.6	216.8	223.8	252.0	261.0	263.1	259.0	254.9	256.9	262.0
50°	216.8	212.7	209.7	215.7	243.9	252.0	254.0	250.9	253.0	256.9	260.0
52.5°	207.6	203.6	203.6	207.6	235.9	243.9	244.9	242.9	246.9	252.0	256.9
55°	196.5	196.5	197.5	201.6	231.9	237.8	236.9	234.7	238.9	244.9	250.0
57.5°	186.5	185.4	190.5	195.6	226.7	230.8	228.8	228.8	231.9	236.9	241.9
60°	180.4	175.3	179.4	187.4	221.7	225.7	222.7	221.7	226.7	230.8	234.7
62.5°	174.4	169.3	172.4	180.4	214.7	217.7	215.7	215.7	220.8	223.8	227.8
65°	165.3	163.2	165.3	173.4	208.6	209.7	209.7	210.7	214.7	216.8	220.8
67.5°	157.3	157.3	158.2	166.2	203.6	201.6	201.6	206.6	207.6	209.7	213.6
70°	147.1	149.2	149.2	159.2	199.6	192.4	193.4	197.5	199.6	201.6	202.6
72.5°	136.1	137.0	139.1	152.2	193.4	183.4	184.4	187.4	188.5	191.5	192.4
75°	124.0	125.0	128.0	145.2	189.5	174.4	172.4	174.4	176.3	178.4	177.3
77.5°	109.9	111.8	115.0	141.2	176.3	172.4	157.3	159.2	161.2	161.2	160.3
80°	92.7	95.7	100.8	135.0	149.2	166.2	140.0	141.2	142.1	142.1	140.0
82.5°	69.6	75.5	82.6	111.8	116.9	142.1	120.9	123.0	120.0	117.9	116.9
85°	45.4	50.3	60.5	77.7	85.7	111.8	99.8	100.8	94.7	93.8	93.8
87.5°	18.1	19.1	27.2	39.3	51.5	69.6	71.5	73.7	68.5	68.5	70.5
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	4738.6	4738.6	4738.6	4738.6	4738.6	4738.6	4738.6	4738.6	4738.6	4738.6	4738.6
2.5°	4318.4	4419.2	4535.2	4653.0	4749.8	4874.7	4995.7	5124.7	5190.1	5228.4	5336.3
5°	3501.1	3639.2	3803.5	3987.8	4141.0	4403.1	4685.3	4999.7	5150.9	5300.0	5582.2
7.5°	2504.4	2639.4	2830.9	3069.8	3287.4	3633.1	4005.1	4430.4	4639.9	4881.7	5344.3
10°	1859.4	2002.5	2175.9	2378.4	2593.0	2952.9	3370.1	3847.8	4078.6	4351.7	4877.7
12.5°	1507.6	1675.0	1854.3	2035.7	2220.3	2462.1	2899.5	3430.5	3678.5	3953.6	4480.7
15°	1176.2	1355.5	1548.9	1746.6	1930.0	2199.9	2646.4	3274.3	3557.6	3823.6	4254.9
17.5°	832.5	1001.8	1219.4	1459.2	1725.4	2044.8	2592.1	3343.0	3686.6	3964.7	4254.0
20°	567.4	684.2	902.0	1186.2	1514.7	1919.9	2612.2	3583.8	4013.1	4318.4	4428.3
22.5°	453.6	508.9	656.1	945.3	1333.4	1829.2	2694.8	3914.4	4481.7	4853.6	4745.7
25°	412.2	443.5	519.9	746.9	1172.1	1768.8	2856.2	4350.8	5006.8	5383.7	5127.7
27.5°	387.0	414.2	463.5	613.7	1033.1	1729.3	3060.7	4864.7	5598.3	5907.8	5525.8
30°	370.9	398.0	443.5	551.3	928.2	1670.9	3240.0	5334.3	6071.0	6271.5	5740.4
32.5°	339.6	360.8	398.0	493.8	849.5	1602.3	3395.4	5754.5	6517.5	6583.9	5998.4
35°	307.4	329.6	366.9	447.4	803.3	1548.9	3476.9	6127.5	6959.9	6896.4	6254.4
37.5°	295.4	313.4	347.7	414.2	778.0	1513.7	3508.2	6494.2	7434.6	7242.0	6432.9
40°	287.2	303.4	333.6	392.0	770.9	1480.4	3501.1	6843.0	7895.2	7599.9	6572.9
42.5°	281.2	295.4	323.5	376.8	751.8	1449.2	3478.0	7144.3	8264.0	7908.3	6706.9
45°	276.0	291.3	319.4	385.0	716.6	1415.0	3463.9	7419.5	8547.3	8168.3	6886.3
47.5°	274.2	291.3	320.4	382.9	678.2	1376.7	3514.2	7724.9	8794.0	8386.9	7125.1
50°	271.1	290.2	342.7	364.8	625.8	1329.3	3684.6	8088.7	9053.1	8632.8	7434.6
52.5°	266.1	289.3	365.8	350.7	558.3	1263.7	3960.6	8602.6	9500.6	9111.6	7892.1
55°	260.0	291.3	349.7	328.5	486.8	1179.1	4236.9	9307.1	10226.1	9883.5	8549.2
57.5°	253.0	288.3	330.5	308.4	427.4	1072.2	4446.4	9884.6	10824.8	10679.7	9356.4
60°	247.9	295.4	297.2	296.4	389.1	970.4	4466.6	9847.3	10997.2	11196.7	10146.5
62.5°	241.9	301.3	271.1	287.2	369.8	875.8	4217.6	9237.5	10705.9	11130.2	10790.6
65°	233.7	263.1	256.9	279.2	369.8	825.5	3638.1	8222.6	9900.7	10501.4	11140.3
67.5°	225.7	238.9	246.9	268.1	377.9	778.0	2923.7	6935.8	8630.8	9486.6	10747.2
70°	214.7	225.7	235.9	258.1	374.0	744.8	2300.7	5559.0	7103.0	8082.6	9659.8
72.5°	204.5	212.7	222.7	242.9	374.0	729.7	1848.4	4360.8	5423.0	6248.4	8002.0
75°	189.5	196.5	205.6	227.8	366.9	667.3	1387.7	3494.0	3967.8	4484.7	6313.8
77.5°	174.4	179.4	186.5	208.6	330.5	557.3	981.6	2706.0	2939.8	3226.1	4922.2
80°	155.1	159.2	164.3	186.5	274.2	432.4	639.0	2116.3	2198.1	2336.1	3238.1
82.5°	132.9	139.1	140.0	160.3	220.8	313.4	380.0	1450.3	1449.2	1651.9	2284.7
85°	108.9	111.8	113.8	126.0	163.2	208.6	250.0	792.1	706.4	989.7	1984.4
87.5°	81.7	78.6	81.7	84.7	107.8	123.0	134.0	146.2	87.7	179.4	1154.0
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°	4738.6	4738.6	4738.6	4738.6	4738.6	4738.6	4738.6	4738.6
2.5°	5393.8	5453.3	5417.9	5375.6	5269.7	5114.6	4995.7	4891.9
5°	5777.8	5887.6	5839.3	5682.0	5407.8	5096.4	4768.9	4569.4
7.5°	5729.4	5947.0	5927.9	5665.9	5272.8	4814.2	4353.7	4090.7
10°	5342.4	5647.7	5700.1	5432.1	5015.9	4502.8	3969.7	3672.5
12.5°	4921.2	5178.1	5284.9	5183.1	4791.1	4270.1	3726.9	3429.5
15°	4568.4	4698.3	4804.2	4869.7	4626.8	4187.4	3684.6	3378.2
17.5°	4307.4	4282.2	4370.9	4528.0	4538.1	4297.3	3875.9	3533.4
20°	4181.4	3983.9	4035.2	4256.0	4514.0	4576.4	4258.0	3852.8
22.5°	4174.3	3865.9	3875.9	4113.9	4583.5	4957.3	4734.6	4273.1
25°	4283.2	3852.8	3862.0	4098.7	4706.4	5341.3	5285.9	4747.7
27.5°	4468.6	3909.2	3903.2	4165.3	4870.7	5661.8	5842.2	5328.2
30°	4669.2	3990.9	3975.8	4272.1	5031.9	5859.4	6237.3	5765.6
32.5°	4919.1	4136.1	4083.6	4428.3	5191.2	6048.8	6575.0	6174.8
35°	5156.9	4348.6	4273.1	4652.1	5361.5	6259.5	6952.8	6627.3
37.5°	5399.8	4666.2	4623.8	4974.5	5602.4	6488.3	7385.1	7140.3
40°	5711.2	5117.6	5097.5	5443.2	5923.9	6738.1	7870.0	7674.4
42.5°	6046.9	5597.3	5580.2	5981.4	6323.0	6989.2	8285.2	8133.0
45°	6388.4	6178.8	6182.9	6555.8	6743.2	7226.0	8611.7	8499.9
47.5°	6791.5	6814.8	6958.9	7151.3	7152.3	7490.0	8900.9	8841.5
50°	7303.6	7582.8	7848.9	7879.0	7565.5	7838.7	9254.7	9232.5
52.5°	7883.0	8468.6	8778.0	8682.3	7968.8	8271.1	9777.7	9776.8
55°	8571.4	9394.7	9686.1	9522.8	8451.4	8834.4	10461.0	10416.7
57.5°	9284.9	10285.7	10520.5	10307.8	9055.2	9490.6	11146.3	10911.5
60°	10055.8	11052.6	11291.4	10972.0	9732.3	10144.6	11599.9	11050.6
62.5°	10560.7	11501.1	11672.3	11366.1	10339.0	10810.7	11746.0	10884.4
65°	10587.0	11202.8	11248.0	11139.3	10597.0	11389.3	11534.3	10391.5
67.5°	9867.4	9903.8	9963.1	10080.2	10045.7	11131.2	10717.9	9240.5
70°	8328.5	7844.8	8040.3	8153.1	8407.1	9900.7	9209.3	7515.2
72.5°	6368.4	5661.8	5883.5	5845.4	6373.4	8120.9	7045.5	5788.9
75°	4583.5	3860.8	3878.1	3880.0	4579.5	6482.2	4804.2	4110.9
77.5°	3115.1	2732.1	2788.6	2753.3	3064.7	5078.3	3458.7	2963.0
80°	2130.5	2120.4	2132.5	2049.9	2043.9	3282.4	2560.8	2363.4
82.5°	1580.3	1460.4	1443.1	1355.5	1566.1	2509.4	1944.0	1698.2
85°	1246.7	808.2	702.5	847.6	1356.5	2308.9	1185.1	870.7
87.5°	528.2	317.5	192.4	380.9	753.9	1692.0	328.5	169.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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