

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: P270535

Luminaire Tested: **NAV-AF-04-D-UNV-SLR-7027-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270535
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-7027-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 2700K, 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: 15125.6 lumens
Efficiency: N/A
Efficacy: 88.5 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): 171
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

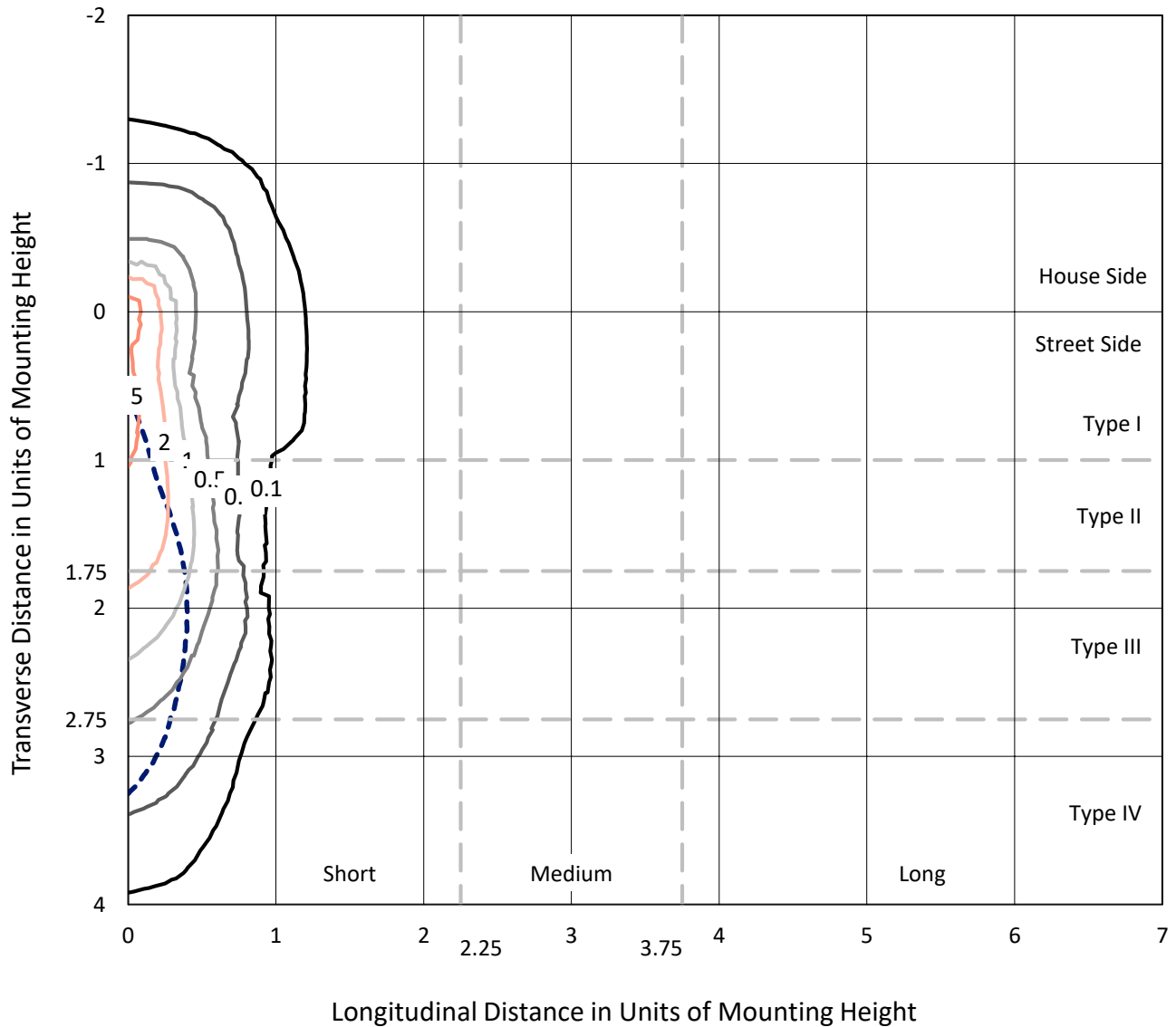


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Iso-Footcandle Lines of Horizontal Illumination

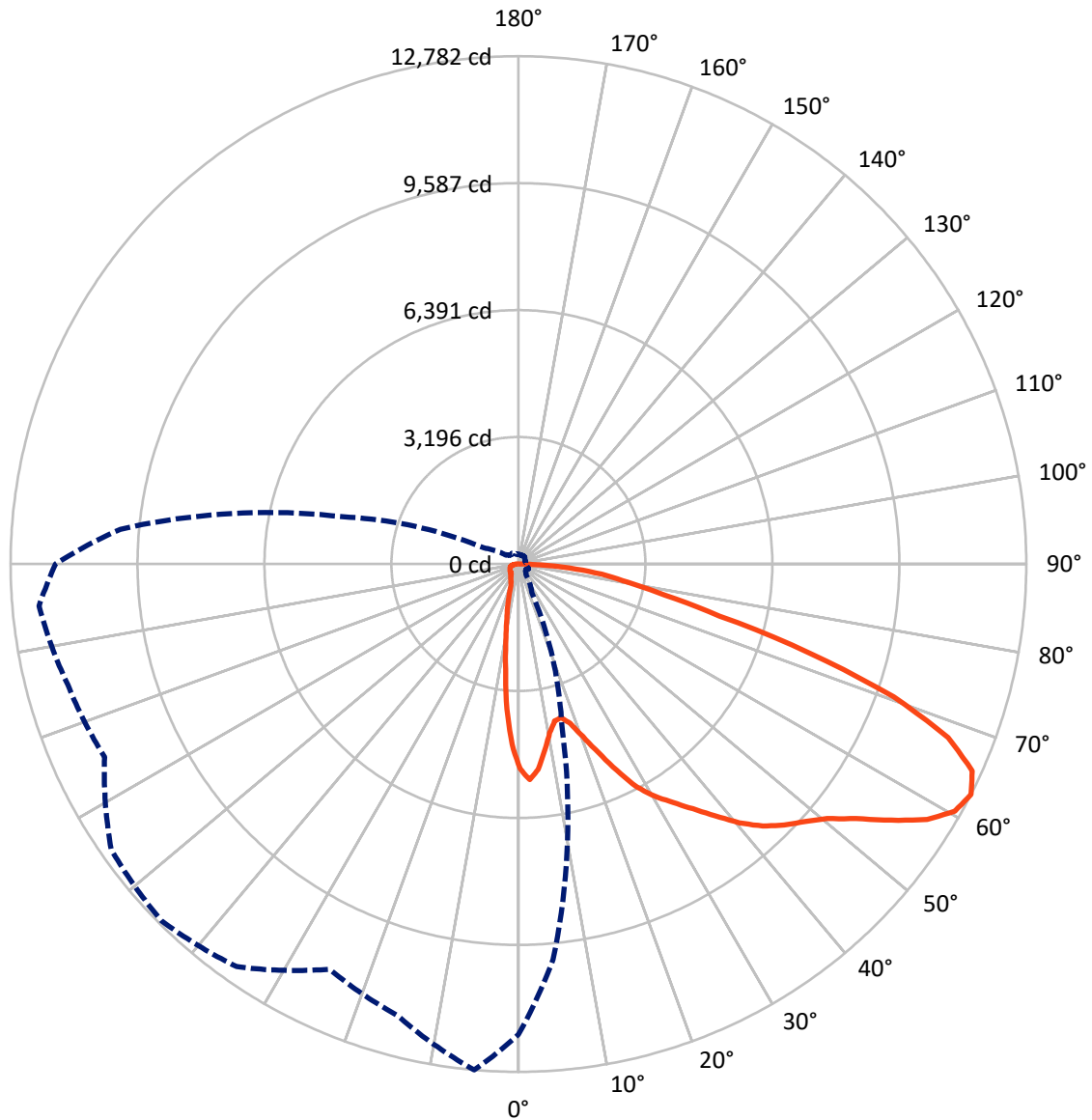
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.3 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	2679.5	0.0	2679.5
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	12446.1	0.0	12446.1
	% Fixture	82.3	0.0	82.3
Total	Lumens	15125.6	0.0	15125.6
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	375.0	2.5
10°-20°	685.0	4.5
20°-30°	985.2	6.5
30°-40°	1508.9	10.0
40°-50°	2206.0	14.6
50°-60°	3209.8	21.2
60°-70°	3718.9	24.6
70°-80°	1938.6	12.8
80°-90°	498.3	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°	15125.6	100.0
0°-180°	15125.6	100.0



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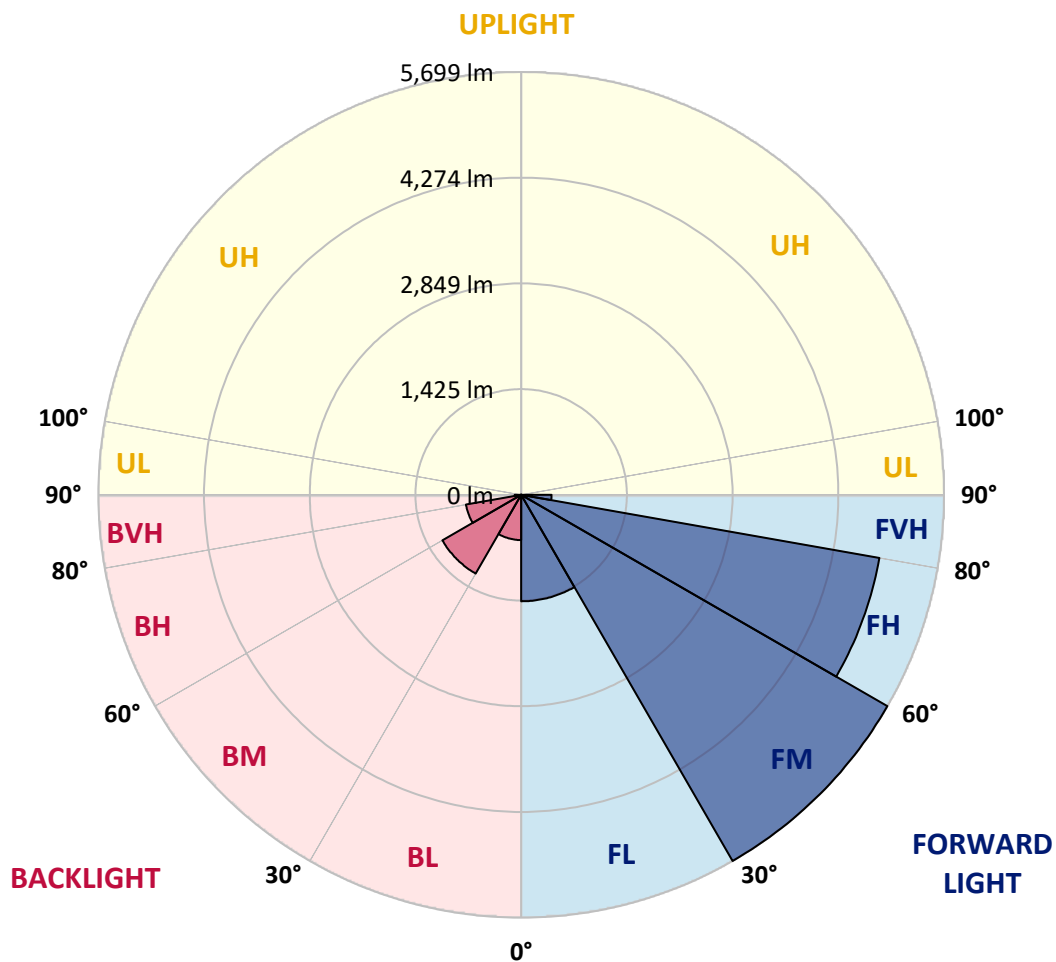
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1435.5	9.5			
FM	(30°-60°)	5698.6	37.7			
FH	(60°-80°)	4902.0	32.4			G2/5000
FVH	(80°-90°)	410.0	2.7			G3/500
BL	(0°-30°)	609.6	4.0	B2/1000		
BM	(30°-60°)	1226.0	8.1	B2/2500		
BH	(60°-80°)	755.5	5.0	B2/1000		G2/1000
BVH	(80°-90°)	88.4	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°	5156.6	5156.6	5156.6	5156.6	5156.6	5156.6	5156.6	5156.6	5156.6	5156.6	5156.6
2.5°	5323.4	5248.7	5076.5	4925.1	4736.7	4595.1	4423.0	4331.8	4265.1	4220.1	4183.9
5°	4972.4	4792.5	4463.5	4175.1	3863.6	3638.9	3375.7	3231.9	3143.1	3094.8	3072.9
7.5°	4451.5	4213.5	3788.0	3400.9	3011.5	2730.8	2531.2	2318.3	2205.3	2131.9	2107.9
10°	3996.3	3727.6	3219.9	2784.4	2484.1	2284.4	2113.4	1918.2	1773.3	1647.2	1600.2
12.5°	3732.0	3419.5	2840.4	2446.8	2194.5	1980.7	1799.7	1589.1	1436.7	1305.1	1254.7
15°	3676.1	3327.3	2681.4	2231.7	1922.6	1664.7	1447.6	1218.5	1069.3	960.6	925.7
17.5°	3844.9	3415.0	2614.4	2035.5	1662.6	1347.8	1080.2	834.5	710.6	651.5	637.2
20°	4192.6	3608.1	2582.6	1859.0	1410.2	1037.5	746.9	567.0	505.6	488.0	486.9
22.5°	4649.9	3921.7	2617.8	1714.1	1173.5	765.4	547.2	466.1	440.9	430.9	430.9
25°	5166.5	4346.2	2711.1	1603.4	965.0	595.4	471.6	427.8	406.8	397.1	398.0
27.5°	5798.2	4862.7	2838.3	1501.3	815.9	522.0	440.9	403.6	382.8	372.8	374.0
30°	6274.1	5306.8	2947.9	1408.2	739.1	492.5	424.4	389.3	366.2	352.0	351.0
32.5°	6719.4	5698.4	3036.7	1341.3	695.3	439.8	383.8	357.5	337.9	321.4	318.0
35°	7211.9	6066.9	3078.4	1339.1	666.8	397.1	351.0	319.2	299.3	280.7	277.4
37.5°	7770.0	6517.7	3113.4	1352.2	651.5	369.7	335.5	304.9	288.4	269.9	265.4
40°	8351.3	6958.5	3141.0	1363.2	649.3	351.0	323.5	296.1	279.6	259.9	255.5
42.5°	8850.2	7348.9	3178.3	1358.7	633.8	347.6	315.8	288.4	273.1	253.3	247.8
45°	9249.5	7659.3	3236.4	1357.7	610.8	355.3	313.7	286.2	267.5	246.8	242.4
47.5°	9621.2	8009.1	3359.1	1353.2	585.6	353.2	325.7	284.0	265.4	244.6	241.3
50°	10046.7	8479.6	3568.6	1320.4	550.5	337.9	347.6	281.9	259.9	241.3	238.1
52.5°	10638.9	9168.3	3879.1	1261.2	502.3	321.4	351.0	280.7	251.2	234.6	230.2
55°	11335.4	9906.4	4213.5	1175.6	438.7	292.8	333.5	276.4	242.4	224.8	218.3
57.5°	11873.8	10451.4	4447.1	1052.9	376.2	276.4	297.2	266.4	231.5	213.8	208.3
60°	12025.3	10475.6	4488.7	905.9	344.4	265.4	255.5	290.6	222.6	203.9	198.4
62.5°	11844.2	9996.2	4216.7	802.7	333.5	254.4	232.5	277.4	213.8	195.2	189.7
65°	11308.0	9187.0	3608.1	787.5	344.4	244.6	220.4	221.5	205.1	186.5	181.0
67.5°	10055.4	7996.0	2842.5	797.2	357.5	234.6	211.7	201.8	195.2	178.8	172.1
70°	8178.0	6437.6	2239.5	814.9	369.7	221.5	200.7	188.6	183.2	165.6	162.4
72.5°	6299.4	5152.1	1766.7	802.7	381.6	208.3	185.3	175.4	168.9	152.4	149.2
75°	4473.4	4093.9	1298.5	688.7	349.8	189.7	167.9	159.0	153.5	136.1	134.8
77.5°	3224.2	3066.4	903.7	517.7	276.4	166.6	148.0	140.3	137.1	117.4	117.4
80°	2571.8	2333.7	540.7	337.9	201.8	138.2	124.0	120.6	117.4	97.6	98.8
82.5°	1848.0	1618.7	345.5	210.6	148.0	105.3	96.5	95.4	89.9	72.4	72.4
85°	947.5	826.9	221.5	141.5	104.3	68.0	63.6	61.4	58.1	44.9	44.9
87.5°	184.2	253.3	122.8	69.1	50.5	24.2	24.2	20.8	24.2	16.4	17.5
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°	5156.6	5156.6	5156.6	5156.6	5156.6	5156.6	5156.6	5156.6	5156.6	5156.6	5156.6
2.5°	4252.9	4230.9	4215.7	4208.0	4318.7	4364.9	4417.4	4493.1	4544.6	4522.7	4592.9
5°	3176.0	3191.4	3226.4	3281.2	3435.8	3509.4	3556.6	3619.1	3664.0	3619.1	3693.7
7.5°	2171.5	2194.5	2269.1	2381.9	2568.4	2650.7	2667.2	2668.2	2658.4	2585.0	2635.4
10°	1599.0	1552.9	1569.3	1650.5	1817.2	1890.8	1898.4	1878.6	1875.3	1845.7	1902.8
12.5°	1239.2	1175.6	1138.3	1151.4	1276.5	1336.9	1346.6	1357.7	1402.7	1416.9	1487.1
15°	924.5	891.6	864.2	852.1	934.3	981.6	987.0	1013.4	1060.4	1073.7	1134.0
17.5°	650.4	659.0	673.4	678.8	738.0	768.8	760.0	760.0	767.7	764.4	798.5
20°	496.9	514.4	541.8	568.1	621.8	639.4	617.5	589.9	572.5	563.6	571.4
22.5°	438.7	450.7	468.2	502.3	547.2	556.1	527.6	505.6	489.1	480.4	481.4
25°	406.8	418.9	433.3	460.7	499.0	503.4	477.1	462.7	449.6	440.9	438.7
27.5°	379.4	387.1	396.0	413.5	452.9	455.1	437.6	428.9	420.0	413.5	411.2
30°	354.2	357.5	360.8	378.4	408.0	411.2	402.5	398.0	394.9	390.5	390.5
32.5°	321.4	325.7	331.1	346.6	375.0	379.4	374.0	370.7	365.3	363.1	359.7
35°	281.9	292.8	304.9	323.5	354.2	356.4	349.8	340.0	326.9	323.5	321.4
37.5°	265.4	267.5	283.0	304.9	336.7	338.9	330.0	313.7	303.7	304.9	307.1
40°	254.4	257.8	266.4	288.4	320.2	323.5	315.8	303.7	293.9	295.1	298.2
42.5°	245.6	250.1	255.5	269.9	301.7	308.2	306.0	295.1	285.1	287.4	291.7
45°	241.3	244.6	244.6	254.4	285.1	295.1	296.1	287.4	279.6	281.9	287.4
47.5°	239.0	239.0	235.7	243.5	274.2	284.0	286.2	281.9	277.4	279.6	285.1
50°	235.7	231.5	228.1	234.6	265.4	274.2	276.4	273.1	275.3	279.6	283.0
52.5°	226.0	221.5	221.5	226.0	256.6	265.4	266.4	264.3	268.8	274.2	279.6
55°	213.8	213.8	215.0	219.4	252.2	258.8	257.8	255.5	259.9	266.4	271.9
57.5°	202.8	201.8	207.2	212.8	246.8	251.2	248.9	248.9	252.2	257.8	263.3
60°	196.3	190.8	195.2	203.9	241.3	245.6	242.4	241.3	246.8	251.2	255.5
62.5°	189.7	184.2	187.6	196.3	233.6	237.0	234.6	234.6	240.1	243.5	247.8
65°	179.9	177.7	179.9	188.6	227.0	228.1	228.1	229.2	233.6	235.7	240.1
67.5°	171.0	171.0	172.1	181.0	221.5	219.4	219.4	224.8	226.0	228.1	232.5
70°	160.1	162.4	162.4	173.3	217.1	209.5	210.6	215.0	217.1	219.4	220.4
72.5°	148.0	149.2	151.4	165.6	210.6	199.7	200.7	203.9	205.1	208.3	209.5
75°	134.8	136.1	139.2	157.9	206.3	189.7	187.6	189.7	191.9	194.2	193.0
77.5°	119.6	121.7	125.0	153.5	191.9	187.6	171.0	173.3	175.4	175.4	174.5
80°	100.9	104.3	109.7	147.0	162.4	181.0	152.4	153.5	154.7	154.7	152.4
82.5°	75.6	82.3	89.9	121.7	127.2	154.7	131.6	133.8	130.6	128.3	127.2
85°	49.3	54.8	65.8	84.4	93.2	121.7	108.5	109.7	103.0	102.0	102.0
87.5°	19.8	20.8	29.6	42.8	56.0	75.6	77.9	80.0	74.6	74.6	76.7
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°	5156.6	5156.6	5156.6	5156.6	5156.6	5156.6	5156.6	5156.6	5156.6	5156.6	5156.6
2.5°	4699.4	4808.9	4935.1	5063.3	5168.7	5304.8	5436.3	5576.7	5648.0	5689.7	5807.0
5°	3809.9	3960.2	4138.9	4339.6	4506.3	4791.4	5098.5	5440.7	5605.2	5767.5	6074.6
7.5°	2725.3	2872.2	3080.6	3340.4	3577.4	3953.6	4358.2	4821.1	5049.2	5312.3	5815.7
10°	2023.4	2179.1	2367.8	2588.1	2821.8	3213.2	3667.3	4187.2	4438.3	4735.4	5307.9
12.5°	1640.7	1822.8	2018.0	2215.3	2416.0	2679.3	3155.1	3733.1	4002.8	4302.3	4875.9
15°	1279.8	1475.0	1685.6	1900.5	2100.1	2394.1	2879.8	3563.1	3871.2	4160.8	4630.3
17.5°	905.9	1090.2	1326.9	1588.1	1877.5	2225.2	2820.7	3637.6	4011.7	4314.4	4629.1
20°	617.5	744.7	981.6	1290.9	1648.3	2089.2	2842.5	3899.8	4367.0	4699.4	4818.9
22.5°	493.4	553.9	714.0	1028.6	1450.9	1990.5	2932.5	4259.6	4877.0	5281.7	5164.3
25°	448.6	482.5	565.9	812.6	1275.5	1924.7	3108.0	4734.3	5448.3	5858.4	5579.9
27.5°	421.1	450.7	504.5	667.9	1124.0	1881.9	3330.6	5293.7	6092.0	6428.8	6013.2
30°	403.6	433.3	482.5	599.9	1010.1	1818.3	3525.8	5804.8	6606.5	6824.8	6246.8
32.5°	369.7	392.6	433.3	537.4	924.5	1743.7	3694.8	6262.1	7092.3	7164.6	6527.4
35°	334.4	358.7	399.1	486.9	874.1	1685.6	3783.7	6667.8	7573.7	7504.6	6806.1
37.5°	321.4	341.0	378.4	450.7	846.7	1647.2	3817.5	7067.1	8090.2	7880.8	7000.1
40°	312.6	330.0	363.1	426.6	838.9	1611.0	3809.9	7446.5	8591.4	8270.2	7152.6
42.5°	306.0	321.4	352.0	410.2	818.1	1577.1	3784.6	7774.4	8992.8	8605.8	7298.5
45°	300.6	316.9	347.6	418.9	779.8	1539.8	3769.3	8073.7	9301.1	8888.6	7493.8
47.5°	298.2	316.9	348.7	416.8	738.0	1498.1	3824.2	8406.1	9569.7	9126.6	7753.6
50°	295.1	315.8	372.8	397.1	681.0	1446.5	4009.4	8802.0	9851.5	9394.3	8090.2
52.5°	289.6	314.8	398.0	381.6	607.6	1375.2	4310.0	9361.2	10338.5	9915.1	8588.2
55°	283.0	316.9	380.5	357.5	529.7	1283.0	4610.6	10127.9	11128.1	10755.1	9303.1
57.5°	275.3	313.7	359.7	335.5	465.1	1166.9	4838.6	10756.3	11779.6	11621.6	10181.6
60°	269.9	321.4	323.5	322.4	423.3	1056.0	4860.5	10715.7	11967.0	12184.3	11041.4
62.5°	263.3	327.9	295.1	312.6	402.5	953.0	4589.6	10052.3	11650.1	12111.8	11742.3
65°	254.4	286.2	279.6	303.7	402.5	898.1	3959.0	8947.8	10773.8	11427.5	12122.7
67.5°	245.6	259.9	268.8	291.7	411.2	846.7	3181.4	7547.4	9392.0	10323.1	11695.0
70°	233.6	245.6	256.6	280.7	406.8	810.5	2503.8	6049.4	7729.5	8795.5	10511.7
72.5°	222.6	231.5	242.4	264.3	406.8	794.0	2011.3	4745.3	5901.2	6799.5	8707.7
75°	206.3	213.8	223.7	247.8	399.1	726.0	1510.1	3802.3	4317.7	4880.2	6870.7
77.5°	189.7	195.2	202.8	227.0	359.7	606.4	1068.2	2944.6	3199.0	3510.4	5356.2
80°	168.9	173.3	178.8	202.8	298.2	470.5	695.3	2303.1	2391.8	2542.2	3523.6
82.5°	144.7	151.4	152.4	174.5	240.1	341.0	413.5	1578.1	1577.1	1797.5	2486.1
85°	118.4	121.7	124.0	137.1	177.7	227.0	271.9	862.1	768.8	1077.0	2159.3
87.5°	88.8	85.6	88.8	92.2	117.4	133.8	145.9	159.0	95.4	195.2	1255.7
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°	5156.6	5156.6	5156.6	5156.6	5156.6	5156.6	5156.6	5156.6
2.5°	5869.4	5934.2	5895.8	5849.8	5734.6	5565.7	5436.3	5323.4
5°	6287.2	6406.8	6354.3	6183.2	5884.8	5546.0	5189.5	4972.4
7.5°	6234.6	6471.6	6450.6	6165.5	5737.8	5238.8	4737.8	4451.5
10°	5813.6	6145.8	6202.8	5911.1	5458.2	4900.1	4319.9	3996.3
12.5°	5355.2	5634.8	5750.9	5640.3	5213.7	4646.7	4055.6	3732.0
15°	4971.3	5112.8	5227.9	5299.2	5034.9	4556.7	4009.4	3676.1
17.5°	4687.3	4659.8	4756.3	4927.5	4938.4	4676.2	4217.8	3844.9
20°	4550.2	4335.2	4391.2	4631.3	4912.0	4980.1	4633.5	4192.6
22.5°	4542.5	4206.9	4217.8	4476.7	4987.7	5394.6	5152.1	4649.9
25°	4660.9	4192.6	4202.5	4460.3	5121.5	5812.5	5752.1	5166.5
27.5°	4862.7	4254.1	4247.5	4532.6	5300.3	6161.1	6357.5	5798.2
30°	5081.0	4342.9	4326.4	4648.9	5475.8	6376.1	6787.5	6274.1
32.5°	5352.9	4500.8	4443.7	4818.9	5649.0	6582.3	7154.8	6719.4
35°	5611.7	4732.2	4649.9	5062.3	5834.4	6811.5	7566.1	7211.9
37.5°	5876.1	5077.7	5031.5	5413.2	6096.4	7060.5	8036.5	7770.0
40°	6215.0	5569.0	5547.0	5923.2	6446.3	7332.4	8564.0	8351.3
42.5°	6580.2	6091.0	6072.4	6508.8	6880.6	7605.5	9015.8	8850.2
45°	6952.0	6723.9	6728.1	7134.0	7338.0	7863.3	9371.2	9249.5
47.5°	7390.5	7415.8	7572.6	7782.0	7783.2	8150.6	9686.0	9621.2
50°	7947.7	8251.6	8540.9	8574.0	8232.8	8530.0	10070.9	10046.7
52.5°	8578.3	9215.4	9552.1	9448.0	8671.5	9000.5	10640.1	10638.9
55°	9327.3	10223.3	10540.3	10362.6	9196.8	9613.5	11383.6	11335.4
57.5°	10103.7	11192.8	11448.3	11217.0	9853.8	10327.5	12129.4	11873.8
60°	10942.8	12027.3	12287.2	11939.6	10590.7	11039.2	12622.9	12025.3
62.5°	11492.1	12515.4	12701.9	12368.5	11250.9	11764.2	12782.0	11844.2
65°	11520.8	12190.8	12240.1	12121.6	11531.6	12393.6	12551.6	11308.0
67.5°	10737.7	10777.1	10841.9	10969.1	10931.7	12112.9	11663.2	10055.4
70°	9063.0	8536.7	8749.4	8872.2	9148.6	10773.8	10021.5	8178.0
72.5°	6930.0	6161.1	6402.5	6360.8	6935.5	8837.0	7666.9	6299.4
75°	4987.7	4201.5	4220.1	4222.3	4983.3	7053.9	5227.9	4473.4
77.5°	3389.8	2973.1	3034.6	2996.1	3335.0	5526.3	3763.8	3224.2
80°	2318.3	2307.4	2320.6	2230.6	2224.1	3571.9	2786.7	2571.8
82.5°	1719.6	1589.1	1570.4	1475.0	1704.3	2730.8	2115.5	1848.0
85°	1356.6	879.5	764.4	922.3	1476.2	2512.5	1289.6	947.5
87.5°	574.6	345.5	209.5	414.6	820.3	1841.3	357.5	184.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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