

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: P197200

Luminaire Tested: **NAV-AF-04-D-UNV-SLR-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197200
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-8030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 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: 17583 lumens
Efficiency: N/A
Efficacy: 78.1 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

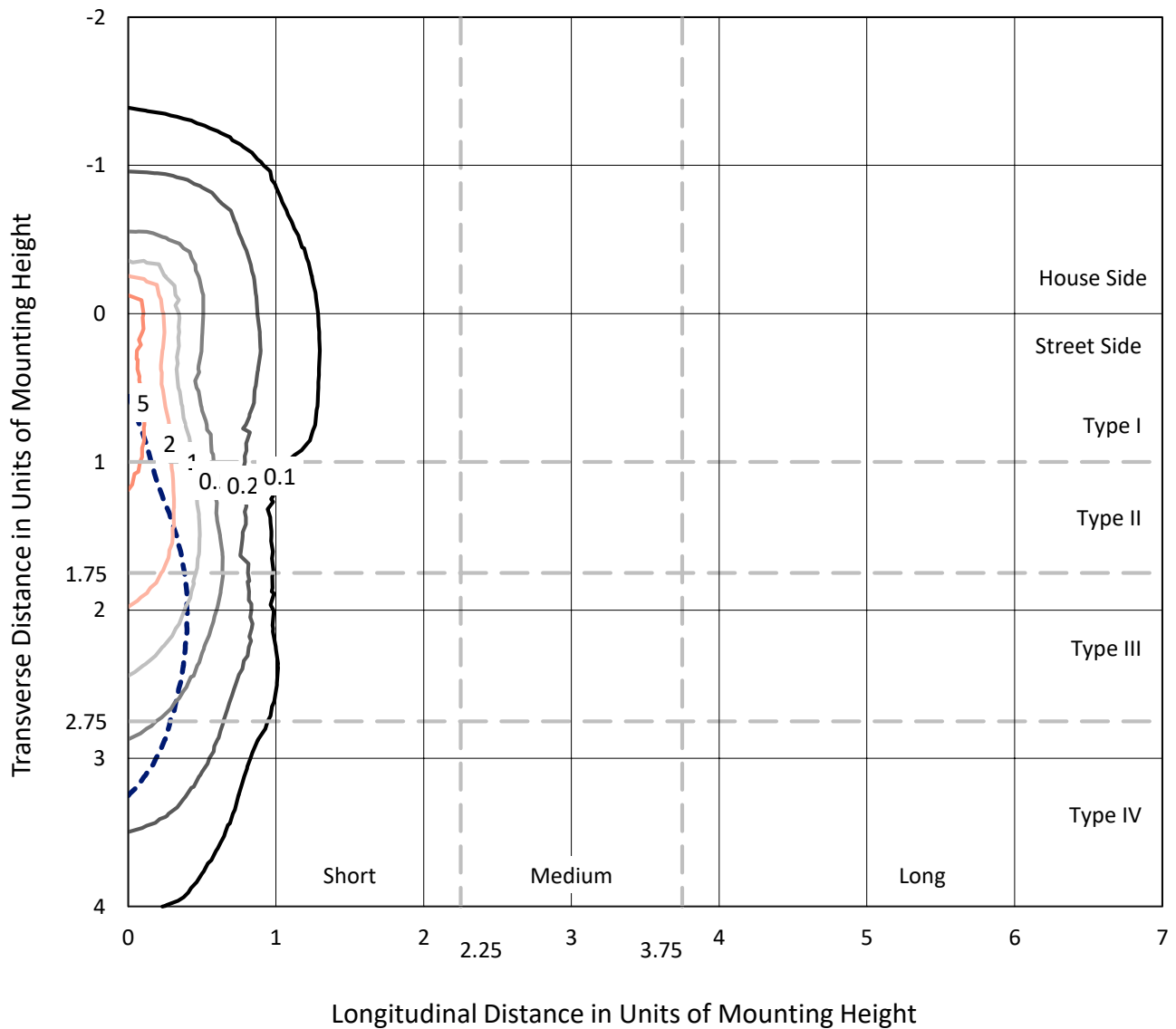
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

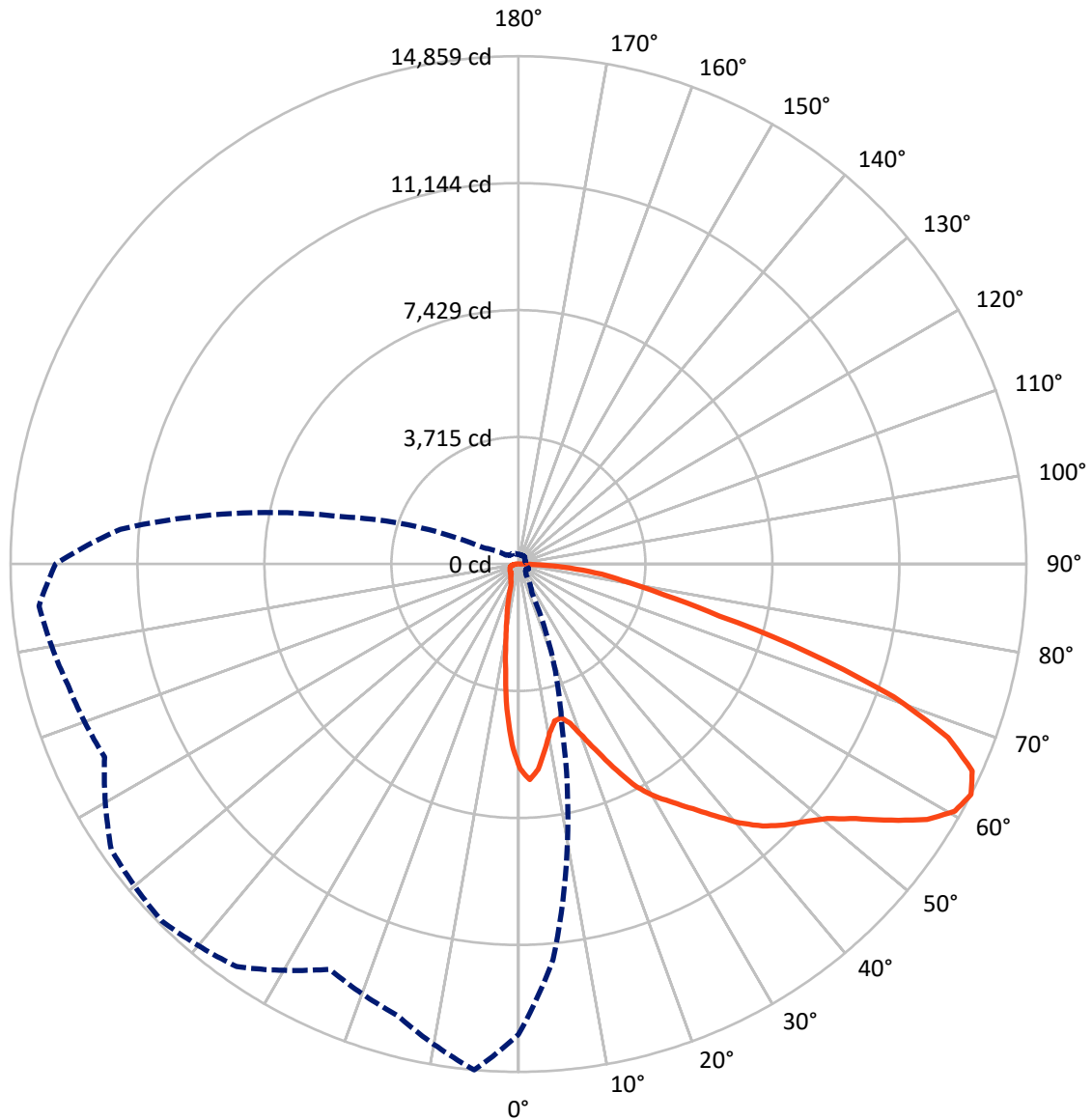
× Max cd
 - - - 1/2 Max cd



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	3114.9	0.0	3114.9
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	14468.1	0.0	14468.1
	% Fixture	82.3	0.0	82.3
Total	Lumens	17583.0	0.0	17583.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	435.9	2.5
10°-20°	796.2	4.5
20°-30°	1145.2	6.5
30°-40°	1754.0	10.0
40°-50°	2564.4	14.6
50°-60°	3731.2	21.2
60°-70°	4323.1	24.6
70°-80°	2253.6	12.8
80°-90°	579.3	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°	17583.0	100.0
0°-180°	17583.0	100.0

Coefficient of Utilization



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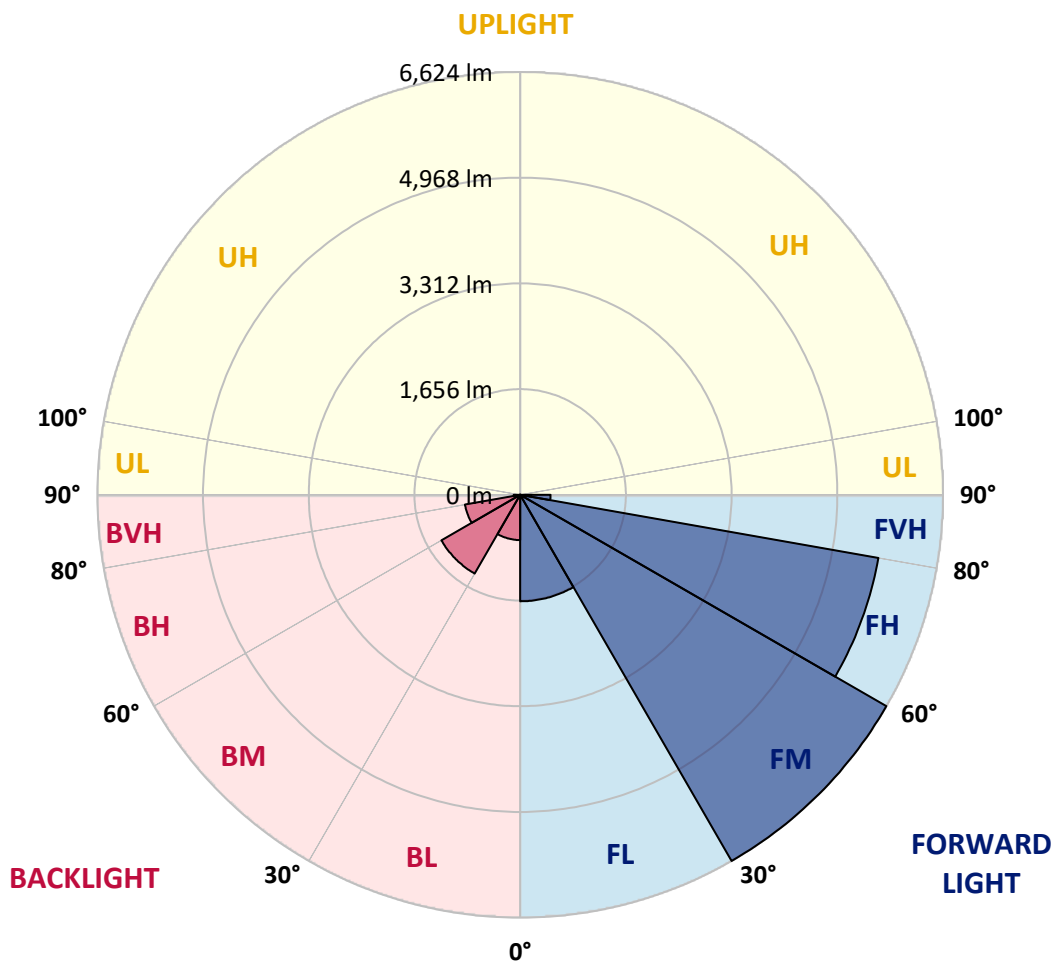
CATALOG NUMBER: NAV-AF-04-D-UNV-SLR-8030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1668.7	9.5			
FM	(30°-60°)	6624.5	37.7			
FH	(60°-80°)	5698.4	32.4			G3/7500
FVH	(80°-90°)	476.6	2.7			G3/500
BL	(0°-30°)	708.7	4.0	B2/1000		
BM	(30°-60°)	1425.2	8.1	B2/2500		
BH	(60°-80°)	878.3	5.0	B2/1000		G2/1000
BVH	(80°-90°)	102.7	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°	5994.4	5994.4	5994.4	5994.4	5994.4	5994.4	5994.4	5994.4	5994.4	5994.4	5994.4
2.5°	6188.2	6101.5	5901.3	5725.4	5506.1	5341.7	5141.5	5035.7	4957.9	4905.7	4863.6
5°	5780.2	5571.1	5188.7	4853.4	4491.3	4230.0	3924.0	3757.0	3653.8	3597.7	3572.2
7.5°	5174.7	4898.0	4403.4	3953.3	3500.8	3174.4	2942.4	2695.1	2563.7	2478.3	2450.3
10°	4645.6	4333.3	3743.0	3236.9	2887.6	2655.5	2456.7	2229.7	2061.4	1914.8	1860.0
12.5°	4338.4	3975.0	3301.9	2844.2	2551.0	2302.4	2092.0	1847.3	1670.1	1517.1	1458.4
15°	4273.3	3867.9	3117.0	2594.3	2234.8	1935.2	1682.8	1416.4	1243.0	1116.8	1076.0
17.5°	4469.7	3969.9	3039.3	2366.1	1932.7	1566.8	1255.7	970.2	826.1	757.3	740.7
20°	4873.8	4194.3	3002.3	2160.9	1639.5	1206.0	868.2	659.1	587.7	567.3	566.0
22.5°	5405.4	4558.9	3043.1	1992.6	1364.1	889.9	636.2	541.8	512.5	501.0	501.0
25°	6005.9	5052.3	3151.5	1863.8	1121.9	692.2	548.2	497.2	473.0	461.5	462.8
27.5°	6740.2	5652.7	3299.3	1745.3	948.5	606.8	512.5	469.1	444.9	433.5	434.7
30°	7293.5	6169.1	3426.8	1636.9	859.3	572.4	493.4	452.6	425.8	409.2	408.0
32.5°	7811.1	6624.2	3530.1	1559.2	808.3	511.2	446.2	415.6	392.7	373.5	369.7
35°	8383.5	7052.5	3578.5	1556.6	775.1	461.5	408.0	371.0	348.0	326.4	322.5
37.5°	9032.4	7576.5	3619.3	1571.9	757.3	429.6	390.1	354.4	335.3	313.6	308.5
40°	9708.1	8089.0	3651.2	1584.7	754.7	408.0	376.1	344.2	325.1	302.1	297.0
42.5°	10288.1	8542.8	3694.5	1579.6	736.9	404.1	367.2	335.3	317.4	294.5	288.1
45°	10752.2	8903.6	3762.1	1578.3	710.1	413.1	364.6	332.7	311.1	286.8	281.7
47.5°	11184.4	9310.3	3904.9	1573.2	680.8	410.5	378.6	330.2	308.5	284.3	280.5
50°	11679.0	9857.2	4148.4	1534.9	640.0	392.7	404.1	327.6	302.1	280.5	276.6
52.5°	12367.4	10657.8	4509.2	1466.1	583.9	373.5	408.0	326.4	291.9	272.8	267.7
55°	13177.0	11515.8	4898.0	1366.7	509.9	340.4	387.6	321.3	281.7	261.3	253.7
57.5°	13802.9	12149.4	5169.6	1223.9	437.3	321.3	345.5	309.8	269.0	248.6	242.2
60°	13978.8	12177.5	5218.0	1053.0	400.3	308.5	297.0	337.8	258.8	237.1	230.7
62.5°	13768.5	11620.4	4901.8	933.2	387.6	295.8	270.3	322.5	248.6	226.9	220.6
65°	13145.1	10679.5	4194.3	915.3	400.3	284.3	256.2	257.5	238.4	216.7	210.4
67.5°	11689.2	9295.0	3304.4	926.8	415.6	272.8	246.0	234.6	226.9	207.8	200.2
70°	9506.6	7483.4	2603.3	947.2	429.6	257.5	233.3	219.3	212.9	192.5	188.7
72.5°	7322.8	5989.3	2053.8	933.2	443.7	242.2	215.5	204.0	196.3	177.2	173.4
75°	5200.2	4759.1	1509.4	800.6	406.7	220.6	195.1	184.9	178.5	158.1	156.8
77.5°	3748.1	3564.5	1050.5	601.7	321.3	193.8	172.1	163.2	159.4	136.4	136.4
80°	2989.5	2712.9	628.5	392.7	234.6	160.6	144.1	140.2	136.4	113.5	114.7
82.5°	2148.1	1881.7	401.6	244.8	172.1	122.4	112.2	110.9	104.5	84.1	84.1
85°	1101.5	961.2	257.5	164.5	121.1	79.0	73.9	71.4	67.6	52.3	52.3
87.5°	214.2	294.5	142.8	80.3	58.6	28.0	28.0	24.2	28.0	19.1	20.4
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°	5994.4	5994.4	5994.4	5994.4	5994.4	5994.4	5994.4	5994.4	5994.4	5994.4	5994.4
2.5°	4943.9	4918.4	4900.6	4891.6	5020.4	5073.9	5135.1	5223.1	5283.0	5257.5	5339.1
5°	3692.0	3709.8	3750.6	3814.4	3994.1	4079.6	4134.4	4207.0	4259.3	4207.0	4293.7
7.5°	2524.2	2551.0	2637.7	2769.0	2985.7	3081.3	3100.5	3101.7	3090.3	3004.8	3063.5
10°	1858.7	1805.2	1824.3	1918.7	2112.4	2197.9	2206.8	2183.8	2180.0	2145.6	2211.9
12.5°	1440.6	1366.7	1323.3	1338.6	1483.9	1554.1	1565.5	1578.3	1630.5	1647.1	1728.7
15°	1074.7	1036.5	1004.6	990.6	1086.2	1141.0	1147.4	1178.0	1232.8	1248.1	1318.2
17.5°	756.0	766.2	782.8	789.1	858.0	893.7	883.5	883.5	892.4	888.6	928.1
20°	577.5	597.9	629.8	660.4	722.8	743.2	717.7	685.9	665.5	655.3	664.2
22.5°	509.9	524.0	544.4	583.9	636.2	646.4	613.2	587.7	568.6	558.4	559.7
25°	473.0	487.0	503.6	535.4	580.1	585.2	554.6	538.0	522.7	512.5	509.9
27.5°	441.1	450.0	460.2	480.6	526.5	529.1	508.7	498.5	488.3	480.6	478.1
30°	411.8	415.6	419.4	439.8	474.2	478.1	467.9	462.8	458.9	453.9	453.9
32.5°	373.5	378.6	385.0	402.9	436.0	441.1	434.7	430.9	424.5	422.0	418.2
35°	327.6	340.4	354.4	376.1	411.8	414.3	406.7	395.2	379.9	376.1	373.5
37.5°	308.5	311.1	328.9	354.4	391.4	393.9	383.7	364.6	353.1	354.4	357.0
40°	295.8	299.6	309.8	335.3	372.3	376.1	367.2	353.1	341.7	342.9	346.8
42.5°	285.6	290.7	297.0	313.6	350.6	358.2	355.7	342.9	331.5	334.0	339.1
45°	280.5	284.3	284.3	295.8	331.5	342.9	344.2	334.0	325.1	327.6	334.0
47.5°	277.9	277.9	274.1	283.0	318.7	330.2	332.7	327.6	322.5	325.1	331.5
50°	274.1	269.0	265.2	272.8	308.5	318.7	321.3	317.4	320.0	325.1	328.9
52.5°	262.6	257.5	257.5	262.6	298.3	308.5	309.8	307.2	312.3	318.7	325.1
55°	248.6	248.6	249.9	255.0	293.2	300.9	299.6	297.0	302.1	309.8	316.2
57.5°	235.8	234.6	240.9	247.3	286.8	291.9	289.4	289.4	293.2	299.6	306.0
60°	228.2	221.8	226.9	237.1	280.5	285.6	281.7	280.5	286.8	291.9	297.0
62.5°	220.6	214.2	218.0	228.2	271.5	275.4	272.8	272.8	279.2	283.0	288.1
65°	209.1	206.5	209.1	219.3	263.9	265.2	265.2	266.4	271.5	274.1	279.2
67.5°	198.9	198.9	200.2	210.4	257.5	255.0	255.0	261.3	262.6	265.2	270.3
70°	186.1	188.7	188.7	201.4	252.4	243.5	244.8	249.9	252.4	255.0	256.2
72.5°	172.1	173.4	175.9	192.5	244.8	232.0	233.3	237.1	238.4	242.2	243.5
75°	156.8	158.1	161.9	183.6	239.7	220.6	218.0	220.6	223.1	225.7	224.4
77.5°	139.0	141.5	145.3	178.5	223.1	218.0	198.9	201.4	204.0	204.0	202.7
80°	117.3	121.1	127.5	170.8	188.7	210.4	177.2	178.5	179.8	179.8	177.2
82.5°	88.0	95.6	104.5	141.5	147.9	179.8	153.0	155.5	151.7	149.2	147.9
85°	57.4	63.7	76.5	98.2	108.4	141.5	126.2	127.5	119.8	118.6	118.6
87.5°	22.9	24.2	34.4	49.7	65.0	88.0	90.5	93.1	86.7	86.7	89.2
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°	5994.4	5994.4	5994.4	5994.4	5994.4	5994.4	5994.4	5994.4	5994.4	5994.4	5994.4
2.5°	5462.8	5590.3	5736.9	5886.0	6008.4	6166.5	6319.5	6482.7	6565.5	6614.0	6750.4
5°	4428.9	4603.5	4811.3	5044.6	5238.4	5569.9	5926.8	6324.6	6515.8	6704.5	7061.5
7.5°	3168.0	3338.9	3581.1	3883.2	4158.6	4595.9	5066.3	5604.3	5869.5	6175.4	6760.6
10°	2352.1	2533.1	2752.4	3008.7	3280.2	3735.3	4263.1	4867.4	5159.4	5504.8	6170.3
12.5°	1907.2	2118.8	2345.7	2575.2	2808.5	3114.5	3667.8	4339.6	4653.2	5001.3	5668.0
15°	1487.8	1714.7	1959.5	2209.3	2441.4	2783.0	3347.8	4142.0	4500.3	4836.8	5382.5
17.5°	1053.0	1267.2	1542.6	1846.0	2182.6	2586.7	3278.9	4228.7	4663.4	5015.3	5381.2
20°	717.7	865.6	1141.0	1500.5	1916.1	2428.6	3304.4	4533.4	5076.5	5462.8	5601.7
22.5°	573.7	643.8	829.9	1195.8	1686.6	2313.9	3409.0	4951.6	5669.3	6139.7	6003.3
25°	521.4	560.9	657.8	944.7	1482.7	2237.4	3613.0	5503.6	6333.5	6810.3	6486.5
27.5°	489.5	524.0	586.4	776.4	1306.7	2187.7	3871.8	6153.8	7081.9	7473.2	6990.1
30°	469.1	503.6	560.9	697.3	1174.1	2113.7	4098.7	6747.8	7679.8	7933.5	7261.6
32.5°	429.6	456.4	503.6	624.7	1074.7	2027.0	4295.0	7279.5	8244.5	8328.7	7588.0
35°	388.8	416.9	464.0	566.0	1016.1	1959.5	4398.3	7751.2	8804.2	8723.9	7911.8
37.5°	373.5	396.5	439.8	524.0	984.2	1914.8	4437.8	8215.2	9404.6	9161.1	8137.4
40°	363.3	383.7	422.0	495.9	975.3	1872.8	4428.9	8656.3	9987.3	9613.7	8314.6
42.5°	355.7	373.5	409.2	476.8	951.0	1833.2	4399.5	9037.5	10453.9	10003.8	8484.2
45°	349.3	368.4	404.1	487.0	906.4	1789.9	4381.7	9385.5	10812.1	10332.7	8711.1
47.5°	346.8	368.4	405.4	484.4	858.0	1741.5	4445.4	9771.8	11124.4	10609.4	9013.3
50°	342.9	367.2	433.5	461.5	791.7	1681.5	4660.9	10232.0	11452.1	10920.5	9404.6
52.5°	336.6	365.9	462.8	443.7	706.3	1598.7	5010.2	10882.2	12018.1	11526.0	9983.4
55°	328.9	368.4	442.4	415.6	615.8	1491.6	5359.5	11773.3	12936.0	12502.6	10814.6
57.5°	320.0	364.6	418.2	390.1	540.5	1356.5	5624.7	12503.8	13693.3	13509.7	11835.8
60°	313.6	373.5	376.1	374.8	492.1	1227.7	5650.2	12456.7	13911.3	14163.7	12835.3
62.5°	306.0	381.2	342.9	363.3	467.9	1107.9	5335.3	11685.4	13542.8	14079.6	13649.9
65°	295.8	332.7	325.1	353.1	467.9	1044.1	4602.2	10401.6	12524.2	13284.0	14092.3
67.5°	285.6	302.1	312.3	339.1	478.1	984.2	3698.4	8773.6	10917.9	12000.3	13595.1
70°	271.5	285.6	298.3	326.4	473.0	942.1	2910.5	7032.1	8985.2	10224.4	12219.5
72.5°	258.8	269.0	281.7	307.2	473.0	923.0	2338.1	5516.3	6860.0	7904.1	10122.4
75°	239.7	248.6	260.1	288.1	464.0	844.0	1755.5	4419.9	5019.1	5673.1	7987.0
77.5°	220.6	226.9	235.8	263.9	418.2	705.0	1241.7	3423.0	3718.8	4080.8	6226.4
80°	196.3	201.4	207.8	235.8	346.8	546.9	808.3	2677.2	2780.5	2955.1	4096.1
82.5°	168.3	175.9	177.2	202.7	279.2	396.5	480.6	1834.5	1833.2	2089.5	2890.1
85°	137.7	141.5	144.1	159.4	206.5	263.9	316.2	1002.0	893.7	1251.9	2510.2
87.5°	103.3	99.4	103.3	107.1	136.4	155.5	169.6	184.9	110.9	226.9	1459.7
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°	5994.4	5994.4	5994.4	5994.4	5994.4	5994.4	5994.4	5994.4
2.5°	6823.1	6898.3	6853.7	6800.1	6666.2	6469.9	6319.5	6188.2
5°	7308.8	7447.7	7386.5	7187.7	6840.9	6447.0	6032.6	5780.2
7.5°	7247.6	7523.0	7498.7	7167.3	6670.1	6090.0	5507.4	5174.7
10°	6758.0	7144.3	7210.6	6871.5	6345.0	5696.1	5021.7	4645.6
12.5°	6225.1	6550.2	6685.4	6556.6	6060.7	5401.6	4714.4	4338.4
15°	5778.9	5943.4	6077.3	6160.1	5852.9	5297.0	4660.9	4273.3
17.5°	5448.8	5416.9	5529.1	5727.9	5740.7	5436.0	4903.1	4469.7
20°	5289.4	5039.5	5104.5	5383.7	5710.1	5789.1	5386.3	4873.8
22.5°	5280.5	4890.4	4903.1	5204.0	5798.1	6271.0	5989.3	5405.4
25°	5418.2	4873.8	4885.3	5184.9	5953.6	6756.8	6686.6	6005.9
27.5°	5652.7	4945.2	4937.5	5269.0	6161.4	7162.2	7390.4	6740.2
30°	5906.4	5048.4	5029.3	5404.1	6365.4	7412.0	7890.1	7293.5
32.5°	6222.6	5232.0	5165.7	5601.7	6566.8	7651.7	8317.2	7811.1
35°	6523.5	5501.0	5405.4	5884.8	6782.3	7918.2	8795.3	8383.5
37.5°	6830.7	5902.6	5849.1	6292.7	7087.0	8207.6	9342.2	9032.4
40°	7224.6	6473.7	6448.2	6885.5	7493.6	8523.7	9955.4	9708.1
42.5°	7649.2	7080.6	7058.9	7566.3	7998.5	8841.2	10480.6	10288.1
45°	8081.3	7816.2	7821.3	8293.0	8530.1	9140.8	10893.7	10752.2
47.5°	8591.3	8620.6	8802.9	9046.4	9047.7	9474.8	11259.6	11184.4
50°	9238.9	9592.1	9928.6	9966.9	9570.4	9915.9	11707.0	11679.0
52.5°	9972.0	10712.7	11104.0	10982.9	10080.3	10462.8	12368.7	12367.4
55°	10842.7	11884.3	12252.7	12046.2	10691.0	11175.4	13233.1	13177.0
57.5°	11745.3	13011.2	13308.3	13039.3	11454.6	12005.4	14100.0	13802.9
60°	12720.6	13981.4	14283.5	13879.4	12311.3	12832.7	14673.6	13978.8
62.5°	13359.3	14548.7	14765.4	14377.9	13078.8	13675.4	14858.5	13768.5
65°	13392.4	14171.4	14228.7	14091.0	13405.2	14407.2	14590.8	13145.1
67.5°	12482.2	12528.1	12603.3	12751.2	12707.8	14080.8	13558.1	11689.2
70°	10535.4	9923.5	10170.8	10313.6	10634.9	12524.2	11649.7	9506.6
72.5°	8055.8	7162.2	7442.6	7394.2	8062.2	10272.8	8912.6	7322.8
75°	5798.1	4884.0	4905.7	4908.2	5793.0	8199.9	6077.3	5200.2
77.5°	3940.6	3456.1	3527.5	3482.9	3876.9	6424.0	4375.3	3748.1
80°	2695.1	2682.3	2697.6	2593.1	2585.4	4152.2	3239.4	2989.5
82.5°	1999.0	1847.3	1825.6	1714.7	1981.1	3174.4	2459.2	2148.1
85°	1577.0	1022.4	888.6	1072.2	1716.0	2920.7	1499.2	1101.5
87.5°	668.0	401.6	243.5	481.9	953.6	2140.5	415.6	214.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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