

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: P196114

Luminaire Tested: **NAV-AF-04-D-UNV-SL3-800-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196114
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24263)
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-SL3-800-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 17117 lumens
Efficiency: N/A
Efficacy: 100.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B1 - U0 - G3

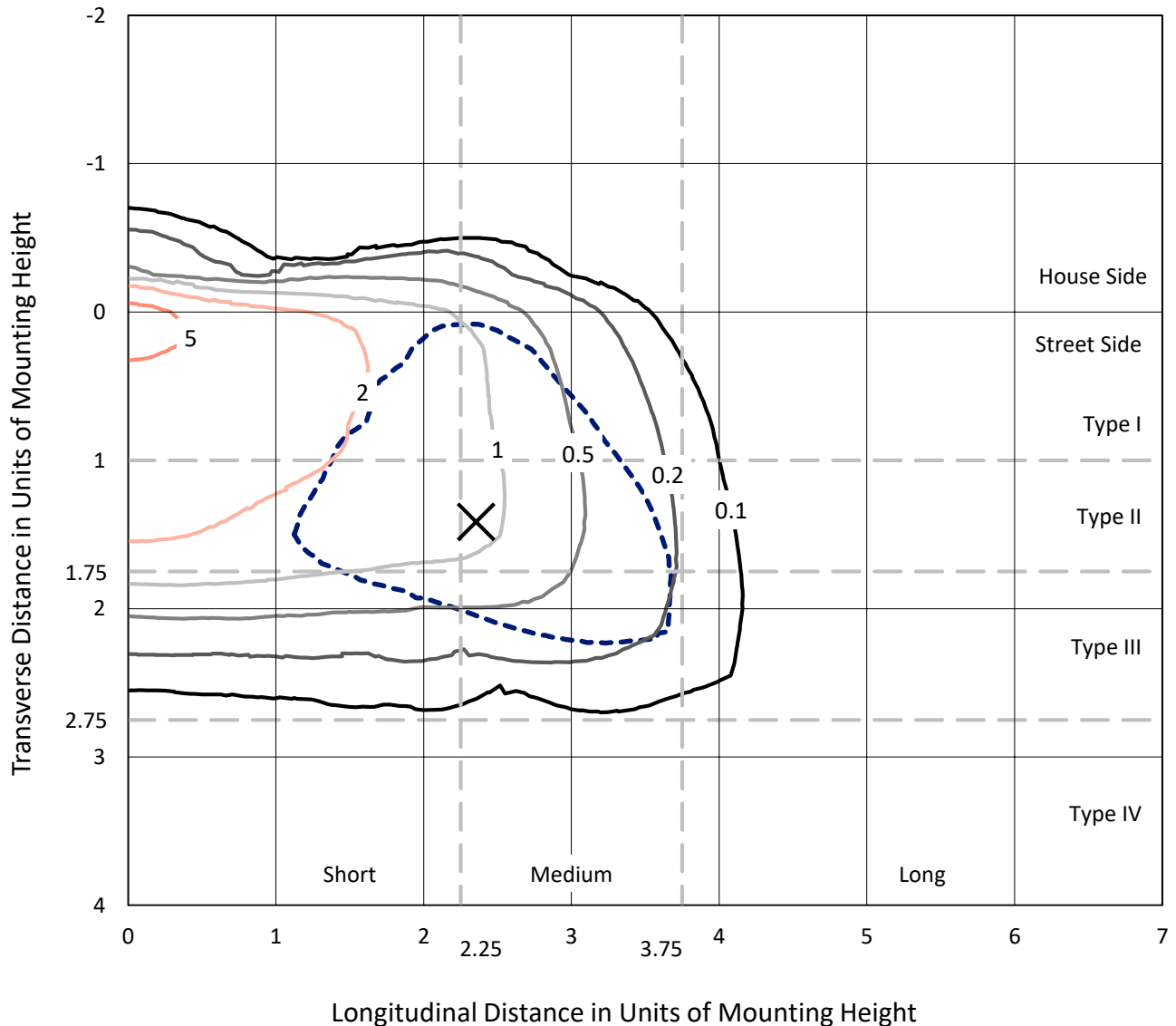
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

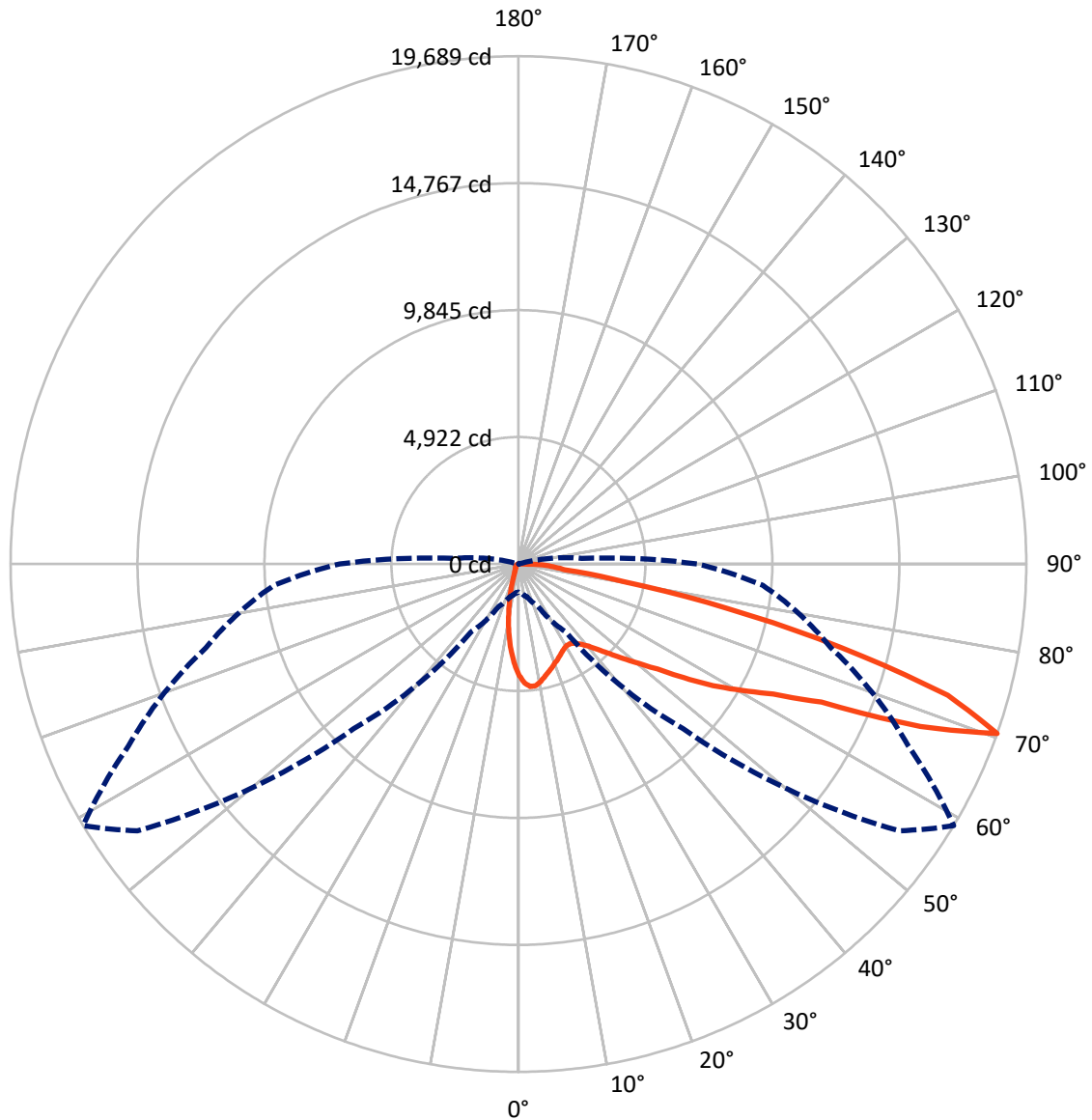
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.4 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1315.8	0.0	1315.8
	% Fixture	7.7	0.0	7.7
Street Side	Lumens	15801.2	0.0	15801.2
	% Fixture	92.3	0.0	92.3
Total	Lumens	17117.0	0.0	17117.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	355.9	2.1
10°-20°	746.5	4.4
20°-30°	1010.5	5.9
30°-40°	1458.4	8.5
40°-50°	2422.0	14.1
50°-60°	3704.7	21.6
60°-70°	4607.8	26.9
70°-80°	2547.2	14.9
80°-90°	264.1	1.5
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°	17117.0	100.0
0°-180°	17117.0	100.0



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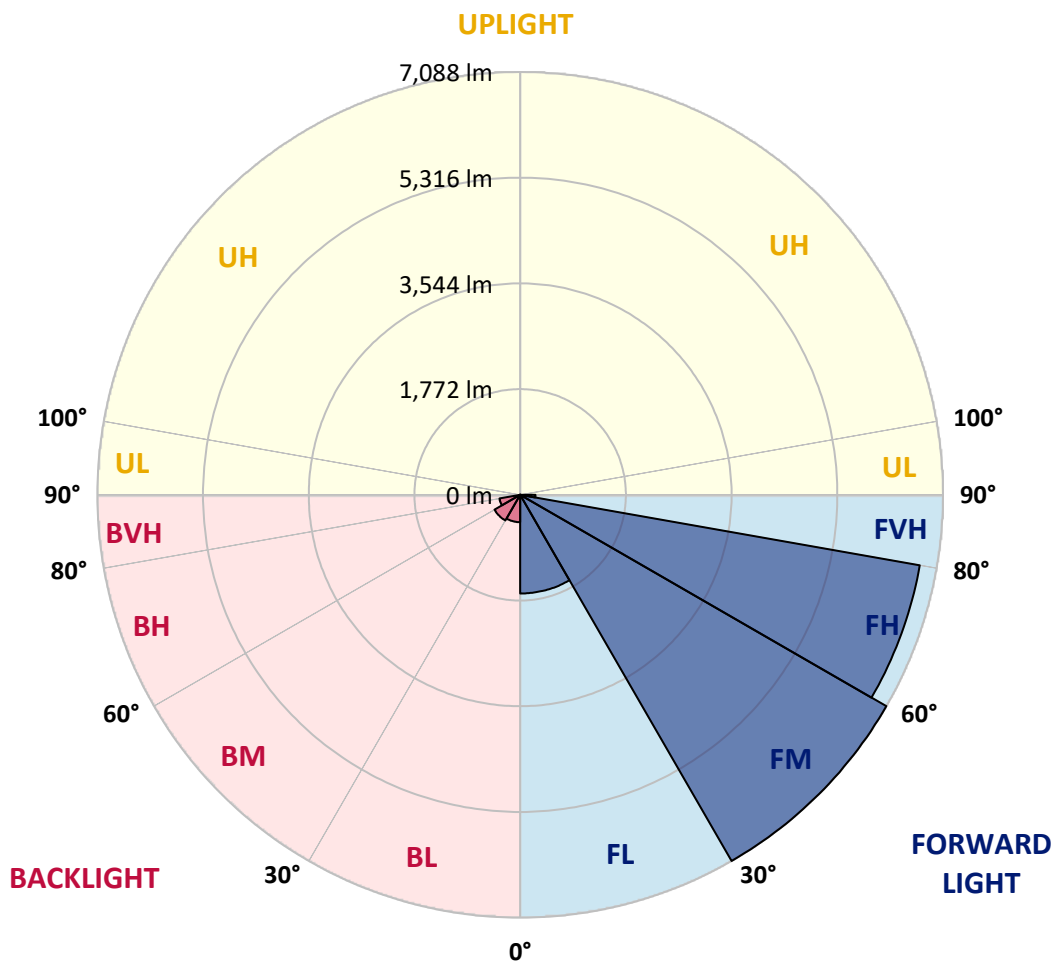
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1654.4	9.7			
FM	(30°-60°)	7088.3	41.4			
FH	(60°-80°)	6802.0	39.7			G3/7500
FVH	(80°-90°)	256.5	1.5			G3/500
BL	(0°-30°)	458.5	2.7	B1/500		
BM	(30°-60°)	496.7	2.9	B1/1000		
BH	(60°-80°)	353.0	2.1	B1/500		G1/500
BVH	(80°-90°)	7.6	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G3

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	4328.3	4328.3	4328.3	4328.3	4328.3	4328.3	4328.3	4328.3	4328.3	4328.3	4328.3
2.5°	4892.6	4884.8	4852.6	4846.0	4809.9	4737.6	4653.7	4620.1	4551.6	4443.2	4323.1
5°	4973.9	4977.8	4980.3	4966.1	4961.0	4901.6	4808.6	4768.6	4676.9	4498.7	4279.2
7.5°	4669.2	4679.5	4711.8	4726.0	4787.9	4811.2	4791.8	4766.0	4693.7	4483.2	4174.7
10°	4347.6	4367.0	4401.9	4425.1	4501.3	4563.3	4642.0	4648.5	4633.0	4431.6	4057.1
12.5°	4071.3	4089.5	4128.1	4174.7	4252.1	4332.2	4449.6	4491.0	4542.6	4398.0	3973.1
15°	3833.7	3838.9	3876.4	3934.5	4036.5	4146.2	4285.7	4346.3	4447.1	4385.1	3908.6
17.5°	3625.8	3627.2	3651.6	3704.6	3828.6	3973.1	4135.9	4216.0	4343.8	4367.0	3851.8
20°	3489.0	3487.6	3489.0	3517.4	3627.2	3798.8	3996.5	4080.3	4244.3	4345.1	3793.7
22.5°	3442.4	3436.0	3406.3	3396.0	3465.8	3616.8	3853.1	3962.8	4155.2	4338.6	3751.1
25°	3499.3	3495.4	3432.1	3372.8	3379.2	3473.4	3707.2	3841.5	4085.6	4361.9	3740.7
27.5°	3682.6	3675.0	3578.1	3461.9	3388.2	3405.0	3598.7	3739.5	4030.0	4418.6	3754.9
30°	3922.8	3924.1	3820.8	3680.1	3507.1	3411.5	3540.6	3673.6	3992.6	4503.8	3785.9
32.5°	4190.1	4188.8	4115.2	3952.5	3731.7	3530.3	3566.4	3678.7	3997.7	4629.2	3845.4
35°	4466.4	4452.3	4427.7	4284.4	4026.1	3738.2	3684.0	3766.6	4051.9	4794.5	3946.0
37.5°	4785.4	4780.2	4804.8	4653.7	4390.3	4044.2	3890.6	3946.0	4188.8	5038.4	4108.8
40°	5292.8	5264.4	5276.1	5070.8	4800.9	4456.1	4179.8	4194.0	4407.1	5361.3	4365.7
42.5°	6259.9	6145.1	5929.4	5544.6	5252.9	4913.2	4558.2	4533.6	4715.7	5752.6	4704.0
45°	7415.7	7283.9	6740.3	6067.6	5704.8	5403.9	5025.6	4959.7	5095.3	6218.7	5140.4
47.5°	8380.2	8238.2	7517.7	6613.8	6164.4	5910.1	5543.4	5465.8	5549.8	6759.8	5664.7
50°	8709.5	8630.7	7998.0	7068.3	6628.0	6478.2	6192.8	6063.7	6084.4	7343.4	6276.8
52.5°	8558.4	8531.3	8107.8	7379.5	7056.7	7105.7	6904.3	6768.8	6745.5	7981.3	6953.4
55°	8239.5	8226.6	8019.9	7552.5	7435.0	7680.4	7902.5	7785.0	7565.4	8659.2	7512.6
57.5°	7783.6	7832.7	7981.3	7885.7	7899.8	8287.2	8829.6	8890.3	8562.3	9198.9	7927.1
60°	6566.0	6697.8	7378.2	8243.3	8905.8	9297.0	9822.6	9936.2	9406.7	9568.2	8406.1
62.5°	4853.8	5042.3	6012.1	7601.6	9459.7	11217.2	11143.5	11093.2	10212.5	10062.8	9277.7
65°	2851.1	3071.9	3891.8	5939.8	8624.3	12451.6	13609.8	12912.5	11440.5	11090.6	10665.8
67.5°	1420.4	1421.7	1792.2	3135.1	6373.6	11590.3	17209.8	16807.0	14051.5	12605.2	11213.3
70°	1092.4	1122.1	1326.2	1822.0	3223.0	9027.1	18034.9	19689.0	16675.2	12538.1	9514.0
72.5°	925.9	945.2	1180.2	1585.7	2409.5	4955.8	15612.6	17403.6	15912.1	10593.5	7012.8
75°	666.2	681.8	1044.6	1438.5	2218.4	2458.6	10709.7	12907.4	11939.0	7451.8	3859.6
77.5°	165.3	164.0	364.2	1167.3	1984.6	2047.9	6145.1	8276.9	6850.1	3051.3	991.6
80°	73.7	71.0	82.7	245.3	1846.5	1933.0	2702.6	4179.8	2627.7	494.6	303.4
82.5°	51.7	49.1	51.7	90.4	617.2	1793.5	1633.4	1811.6	962.0	169.2	129.1
85°	16.8	15.4	28.4	76.2	173.0	1034.3	1593.5	1353.3	715.3	72.3	86.5
87.5°	2.6	2.6	10.3	41.3	50.3	344.7	934.9	937.4	321.5	42.7	38.8
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	4328.3	4328.3	4328.3	4328.3	4328.3	4328.3	4328.3	4328.3	4328.3	4328.3	4328.3
2.5°	4262.4	4186.2	4079.1	3971.9	3875.0	3775.6	3695.6	3658.1	3641.3	3618.1	3567.7
5°	4164.3	4026.1	3791.2	3560.0	3344.3	3137.7	2960.8	2860.2	2751.6	2746.5	2693.5
7.5°	4006.8	3810.5	3439.9	3080.9	2751.6	2436.6	2165.4	1989.8	1869.7	1794.9	1743.2
10°	3831.2	3579.3	3088.7	2583.8	2135.7	1714.8	1366.2	1138.9	1000.8	931.0	891.0
12.5°	3691.7	3375.3	2742.6	2107.3	1545.7	1062.7	738.6	573.4	499.7	471.3	458.4
15°	3571.6	3188.1	2418.6	1681.2	1031.7	610.8	427.4	373.2	361.5	361.5	360.3
17.5°	3450.2	3007.4	2103.5	1262.8	649.5	400.3	337.1	329.3	330.5	334.4	334.4
20°	3335.3	2835.6	1800.0	900.0	426.2	320.2	306.1	303.4	307.3	312.5	311.2
22.5°	3242.3	2684.5	1515.9	618.5	328.0	290.5	281.5	277.6	280.2	284.1	282.7
25°	3176.5	2555.4	1255.1	431.3	285.4	264.7	254.4	249.2	246.6	249.2	248.0
27.5°	3136.5	2446.9	1009.8	324.1	255.6	238.9	226.0	215.6	209.2	209.2	206.6
30°	3110.6	2344.9	791.6	268.6	231.1	213.1	195.0	180.8	170.4	167.9	166.5
32.5°	3109.4	2257.1	591.4	237.6	207.9	187.2	165.3	147.2	135.5	133.0	131.8
35°	3141.6	2186.0	435.2	214.3	187.2	162.6	138.2	118.8	108.4	108.4	107.2
37.5°	3225.6	2144.8	329.3	196.3	170.4	142.1	116.2	98.1	89.1	91.7	91.7
40°	3381.8	2137.0	268.6	182.1	156.2	124.0	94.2	80.1	76.2	80.1	80.1
42.5°	3620.6	2178.4	238.9	171.8	143.3	105.9	78.8	68.4	67.1	71.0	71.0
45°	3931.9	2259.7	222.1	162.6	129.1	87.8	65.9	59.4	58.1	63.3	63.3
47.5°	4308.9	2369.5	206.6	152.3	114.9	72.3	55.5	50.3	50.3	55.5	56.8
50°	4755.7	2518.0	191.1	142.1	103.3	60.7	46.4	42.7	43.9	49.1	50.3
52.5°	5269.6	2700.0	176.9	133.0	90.4	49.1	38.8	36.1	37.4	42.7	43.9
55°	5712.5	2858.8	160.1	124.0	73.7	40.0	32.3	31.0	32.3	38.8	38.8
57.5°	6098.6	3011.2	144.6	109.8	58.1	32.3	25.8	25.8	28.4	34.9	36.1
60°	6611.2	3251.3	131.8	93.0	43.9	24.6	20.7	22.0	25.8	31.0	32.3
62.5°	7519.0	3659.4	114.9	77.4	32.3	19.3	16.8	18.1	23.2	29.7	31.0
65°	8655.3	4045.5	95.5	64.5	24.6	14.2	12.9	16.8	23.2	29.7	31.0
67.5°	8539.1	3518.6	74.9	51.7	18.1	11.7	10.3	15.4	22.0	29.7	31.0
70°	6925.0	2466.3	55.5	34.9	14.2	10.3	10.3	15.4	22.0	28.4	29.7
72.5°	4803.5	1372.6	42.7	23.2	12.9	10.3	9.0	14.2	20.7	28.4	29.7
75°	2285.5	420.9	33.6	16.8	11.7	9.0	7.8	14.2	20.7	28.4	29.7
77.5°	439.1	107.2	27.1	14.2	10.3	9.0	7.8	12.9	20.7	27.1	28.4
80°	148.5	47.8	22.0	12.9	10.3	9.0	7.8	12.9	19.3	25.8	27.1
82.5°	81.3	27.1	19.3	11.7	10.3	7.8	6.4	11.7	18.1	25.8	27.1
85°	63.3	19.3	15.4	11.7	10.3	7.8	6.4	11.7	18.1	24.6	25.8
87.5°	32.3	14.2	12.9	11.7	10.3	7.8	6.4	10.3	16.8	23.2	25.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)