

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: P196109

Luminaire Tested: **NAV-AF-05-D-UNV-SL3-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196109
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-05-D-UNV-SL3-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 4000K, 615mA 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: 17204 lumens
Efficiency: N/A
Efficacy: 106.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B1 - U0 - G3

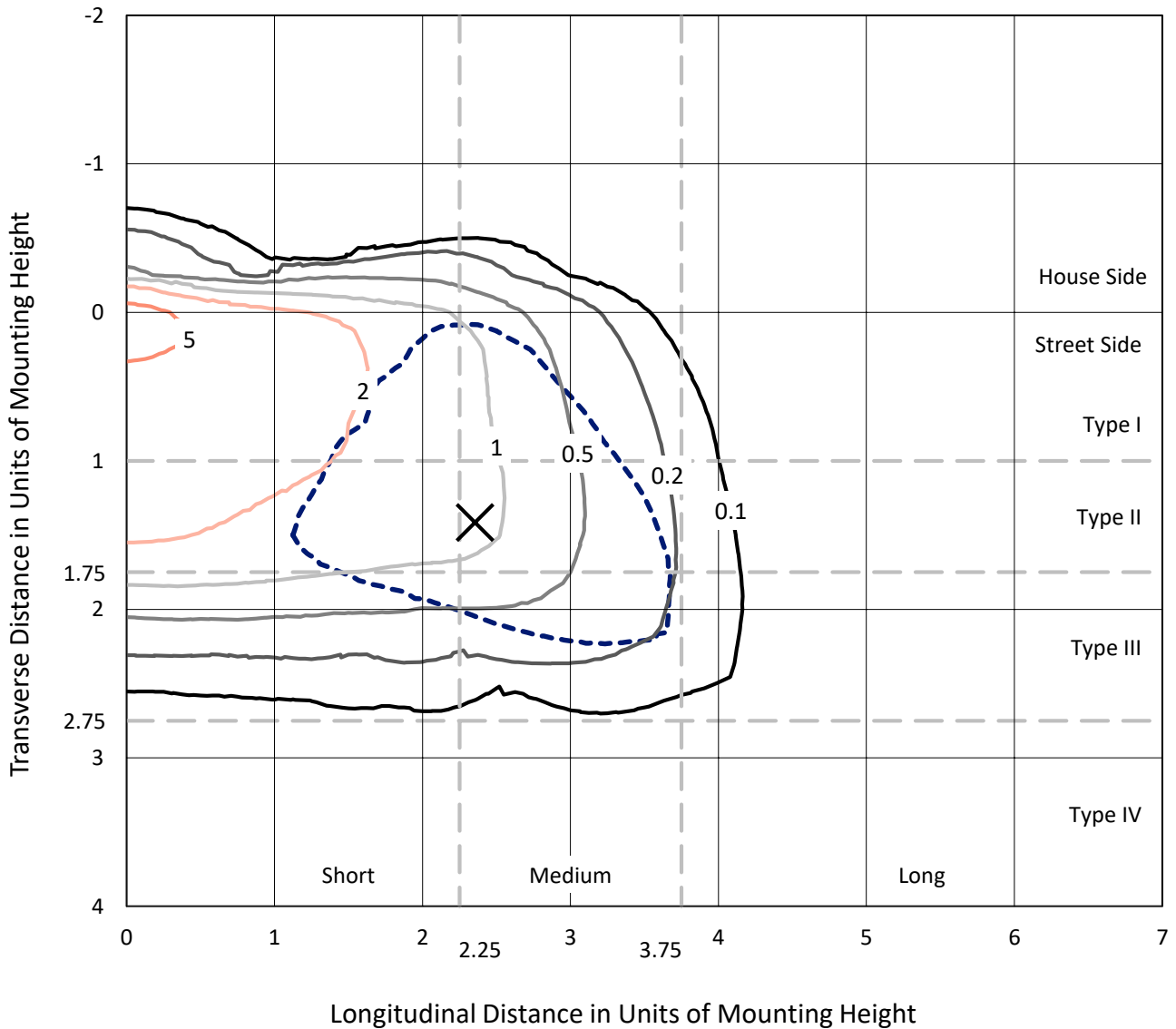
Input Watts (W): 162
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

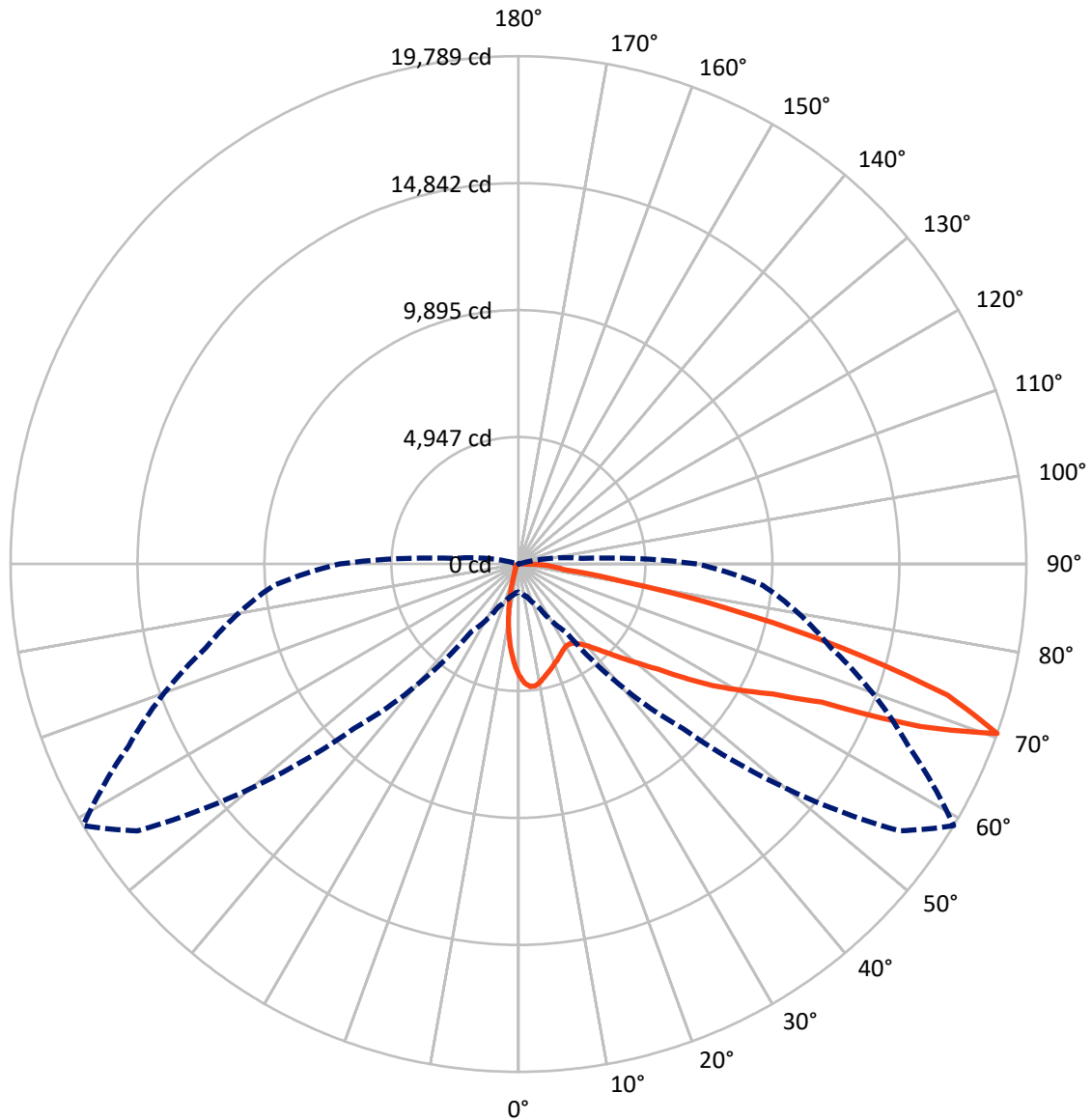
× Max cd
 - - - 1/2 Max cd



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	1322.5	0.0	1322.5
	% Fixture	7.7	0.0	7.7
Street Side	Lumens	15881.5	0.0	15881.5
	% Fixture	92.3	0.0	92.3
Total	Lumens	17204.0	0.0	17204.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	357.7	2.1
10°-20°	750.3	4.4
20°-30°	1015.7	5.9
30°-40°	1465.8	8.5
40°-50°	2434.3	14.1
50°-60°	3723.5	21.6
60°-70°	4631.2	26.9
70°-80°	2560.1	14.9
80°-90°	265.4	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°	17204.0	100.0
0°-180°	17204.0	100.0

Coefficient of Utilization



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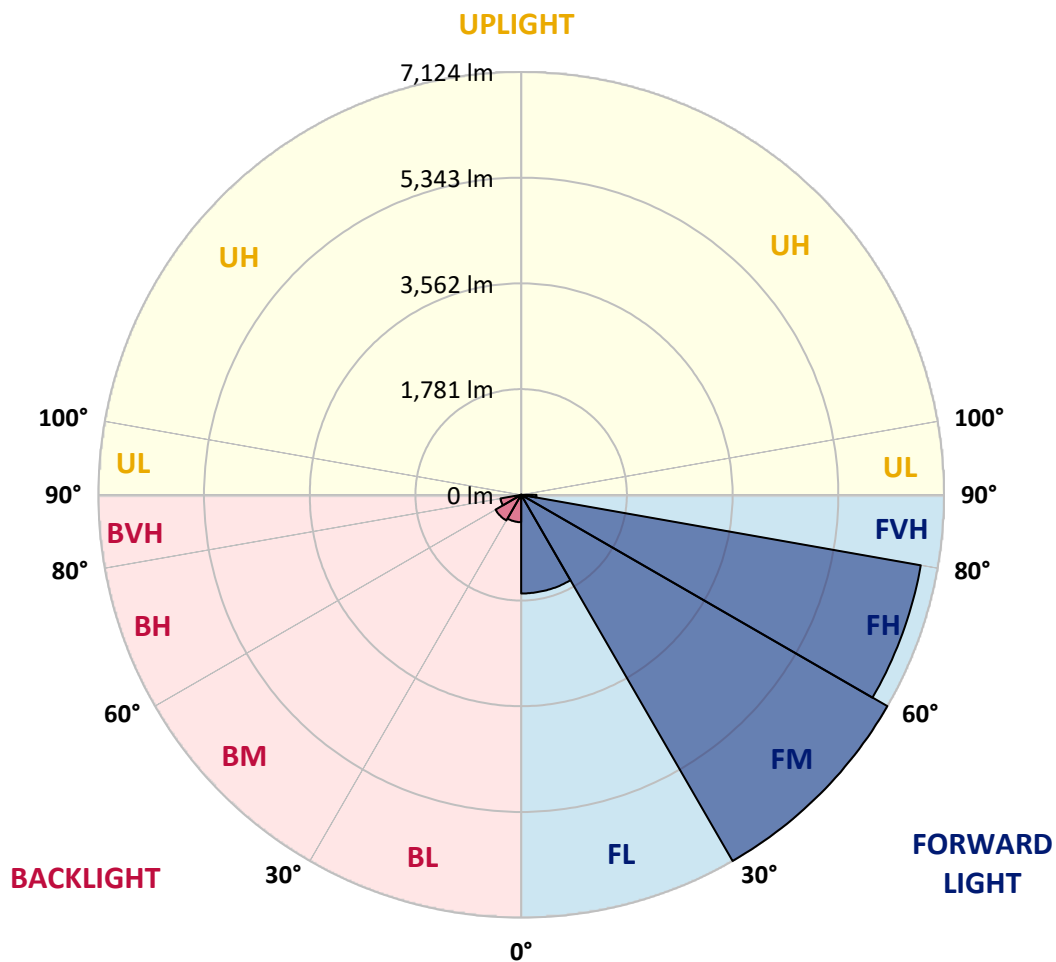
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1662.8	9.7			
FM	(30°-60°)	7124.4	41.4			
FH	(60°-80°)	6836.5	39.7			G3/7500
FVH	(80°-90°)	257.8	1.5			G3/500
BL	(0°-30°)	460.9	2.7	B1/500		
BM	(30°-60°)	499.2	2.9	B1/1000		
BH	(60°-80°)	354.8	2.1	B1/500		G1/500
BVH	(80°-90°)	7.7	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°	4350.3	4350.3	4350.3	4350.3	4350.3	4350.3	4350.3	4350.3	4350.3	4350.3	4350.3
2.5°	4917.4	4909.7	4877.2	4870.7	4834.4	4761.6	4677.3	4643.6	4574.8	4465.8	4345.1
5°	4999.2	5003.0	5005.7	4991.4	4986.2	4926.5	4833.0	4792.8	4700.7	4521.5	4301.0
7.5°	4692.9	4703.3	4735.8	4750.0	4812.3	4835.7	4816.2	4790.3	4717.5	4506.0	4195.8
10°	4369.7	4389.2	4424.3	4447.6	4524.2	4586.5	4665.7	4672.1	4656.6	4454.1	4077.7
12.5°	4092.0	4110.2	4149.1	4195.8	4273.7	4354.2	4472.2	4513.8	4565.7	4420.4	3993.4
15°	3853.3	3858.4	3896.0	3954.4	4056.9	4167.3	4307.4	4368.4	4469.7	4407.4	3928.4
17.5°	3644.3	3645.6	3670.2	3723.4	3848.0	3993.4	4156.9	4237.4	4365.9	4389.2	3871.4
20°	3506.7	3505.3	3506.7	3535.2	3645.6	3818.2	4016.7	4101.1	4265.9	4367.2	3812.9
22.5°	3459.9	3453.5	3423.6	3413.3	3483.4	3635.2	3872.7	3983.0	4176.4	4360.6	3770.2
25°	3517.1	3513.2	3449.6	3389.9	3396.4	3491.1	3726.0	3861.0	4106.3	4384.1	3759.8
27.5°	3701.3	3693.6	3596.3	3479.5	3405.5	3422.3	3617.1	3758.4	4050.5	4441.1	3774.1
30°	3942.8	3944.1	3840.3	3698.8	3524.9	3428.8	3558.6	3692.2	4012.8	4526.8	3805.2
32.5°	4211.4	4210.1	4136.1	3972.6	3750.6	3548.2	3584.5	3697.5	4018.0	4652.7	3864.9
35°	4489.1	4474.9	4450.2	4306.1	4046.6	3757.2	3702.7	3785.7	4072.6	4818.8	3966.1
37.5°	4809.7	4804.5	4829.1	4677.3	4412.6	4064.8	3910.3	3966.1	4210.1	5064.0	4129.7
40°	5319.8	5291.2	5302.9	5096.5	4825.3	4478.8	4201.1	4215.3	4429.5	5388.5	4387.9
42.5°	6291.8	6176.3	5959.5	5572.8	5279.6	4938.2	4581.3	4556.6	4739.6	5781.7	4728.0
45°	7453.3	7321.0	6774.6	6098.4	5733.7	5431.4	5051.1	4984.9	5121.2	6250.2	5166.6
47.5°	8422.8	8280.1	7555.8	6647.4	6195.8	5940.1	5571.5	5493.7	5578.0	6794.0	5693.5
50°	8753.8	8674.6	8038.7	7104.2	6661.7	6511.1	6224.3	6094.5	6115.3	7380.7	6308.6
52.5°	8601.9	8574.7	8148.9	7417.0	7092.5	7141.8	6939.4	6803.1	6779.8	8021.8	6988.7
55°	8281.3	8268.4	8060.8	7590.9	7472.8	7719.4	7942.6	7824.6	7603.9	8703.2	7550.7
57.5°	7823.2	7872.5	8021.8	7925.7	7940.0	8329.4	8874.4	8935.5	8605.8	9245.6	7967.3
60°	6599.4	6731.7	7415.7	8285.3	8951.0	9344.2	9872.5	9986.7	9454.5	9616.8	8448.8
62.5°	4878.5	5068.0	6042.6	7640.2	9507.8	11274.1	11200.1	11149.6	10264.4	10113.8	9324.8
65°	2865.6	3087.5	3911.6	5969.9	8668.1	12514.8	13678.9	12978.2	11498.6	11146.9	10719.9
67.5°	1427.6	1428.9	1801.3	3151.1	6406.0	11649.2	17297.3	16892.3	14122.8	12669.2	11270.3
70°	1097.9	1127.8	1332.9	1831.2	3239.4	9073.0	18126.6	19789.1	16759.9	12601.7	9562.2
72.5°	930.6	950.0	1186.2	1593.8	2421.7	4981.1	15691.9	17491.9	15992.9	10647.3	7048.4
75°	669.6	685.3	1050.0	1445.7	2229.6	2471.0	10764.1	12973.0	11999.6	7489.6	3879.1
77.5°	166.1	164.8	366.0	1173.2	1994.8	2058.4	6176.3	8318.9	6884.9	3066.7	996.8
80°	74.0	71.4	83.1	246.6	1855.8	1942.8	2716.3	4201.1	2641.1	497.1	304.9
82.5°	51.9	49.3	51.9	90.8	620.3	1802.6	1641.7	1820.9	966.9	170.0	129.8
85°	16.9	15.5	28.5	76.6	173.9	1039.5	1601.5	1360.1	719.0	72.6	87.0
87.5°	2.6	2.6	10.3	41.5	50.6	346.5	939.6	942.2	323.2	42.9	39.0
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	4350.3	4350.3	4350.3	4350.3	4350.3	4350.3	4350.3	4350.3	4350.3	4350.3	4350.3
2.5°	4284.1	4207.5	4099.8	3992.1	3894.8	3794.8	3714.3	3676.7	3659.8	3636.5	3585.9
5°	4185.4	4046.6	3810.4	3578.1	3361.3	3153.7	2975.9	2874.7	2765.6	2760.4	2707.2
7.5°	4027.2	3829.8	3457.4	3096.6	2765.6	2448.9	2176.4	2000.0	1879.3	1804.0	1752.0
10°	3850.6	3597.5	3104.3	2597.0	2146.6	1723.5	1373.1	1144.7	1005.8	935.7	895.5
12.5°	3710.4	3392.5	2756.5	2118.0	1553.5	1068.1	742.4	576.2	502.3	473.7	460.7
15°	3589.7	3204.3	2430.8	1689.7	1037.0	613.9	429.5	375.1	363.4	363.4	362.1
17.5°	3467.8	3022.6	2114.1	1269.3	652.8	402.3	338.7	330.9	332.3	336.1	336.1
20°	3352.2	2850.0	1809.2	904.6	428.3	321.8	307.6	304.9	308.8	314.0	312.8
22.5°	3258.8	2698.1	1523.6	621.6	329.6	292.1	282.9	279.1	281.6	285.5	284.2
25°	3192.6	2568.3	1261.5	433.4	286.8	266.1	255.6	250.5	247.9	250.5	249.2
27.5°	3152.4	2459.4	1014.9	325.7	257.0	240.1	227.1	216.8	210.2	210.2	207.7
30°	3126.4	2356.9	795.5	270.0	232.3	214.1	196.0	181.7	171.3	168.7	167.5
32.5°	3125.1	2268.6	594.4	238.8	209.0	188.2	166.1	147.9	136.3	133.7	132.4
35°	3157.5	2197.2	437.4	215.4	188.2	163.6	138.9	119.4	109.0	109.0	107.7
37.5°	3241.9	2155.7	330.9	197.2	171.3	142.8	116.8	98.6	89.5	92.2	92.2
40°	3399.0	2147.9	270.0	183.0	157.0	124.6	94.7	80.5	76.6	80.5	80.5
42.5°	3639.0	2189.4	240.1	172.6	144.0	106.4	79.2	68.7	67.5	71.4	71.4
45°	3951.9	2271.2	223.2	163.6	129.8	88.3	66.2	59.7	58.4	63.6	63.6
47.5°	4330.8	2381.5	207.7	153.1	115.5	72.6	55.9	50.6	50.6	55.9	57.1
50°	4779.8	2530.8	192.1	142.8	103.8	61.0	46.7	42.9	44.1	49.3	50.6
52.5°	5296.3	2713.7	177.8	133.7	90.8	49.3	39.0	36.3	37.6	42.9	44.1
55°	5741.5	2873.4	160.9	124.6	74.0	40.2	32.4	31.1	32.4	39.0	39.0
57.5°	6129.5	3026.5	145.4	110.3	58.4	32.4	26.0	26.0	28.5	35.1	36.3
60°	6644.8	3267.9	132.4	93.4	44.1	24.7	20.8	22.1	26.0	31.1	32.4
62.5°	7557.2	3678.0	115.5	77.8	32.4	19.4	16.9	18.2	23.3	29.9	31.1
65°	8699.3	4066.0	96.1	64.9	24.7	14.3	13.0	16.9	23.3	29.9	31.1
67.5°	8582.5	3536.5	75.3	51.9	18.2	11.7	10.3	15.5	22.1	29.9	31.1
70°	6960.2	2478.8	55.9	35.1	14.3	10.3	10.3	15.5	22.1	28.5	29.9
72.5°	4827.8	1379.6	42.9	23.3	13.0	10.3	9.1	14.3	20.8	28.5	29.9
75°	2297.1	423.1	33.8	16.9	11.7	9.1	7.8	14.3	20.8	28.5	29.9
77.5°	441.3	107.7	27.2	14.3	10.3	9.1	7.8	13.0	20.8	27.2	28.5
80°	149.2	48.0	22.1	13.0	10.3	9.1	7.8	13.0	19.4	26.0	27.2
82.5°	81.7	27.2	19.4	11.7	10.3	7.8	6.4	11.7	18.2	26.0	27.2
85°	63.6	19.4	15.5	11.7	10.3	7.8	6.4	11.7	18.2	24.7	26.0
87.5°	32.4	14.3	13.0	11.7	10.3	7.8	6.4	10.3	16.9	23.3	26.0
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)