

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: P196108

Luminaire Tested: **NAV-AF-04-D-UNV-SL3-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196108
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-SL3-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 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: 13958.2 lumens
Efficiency: N/A
Efficacy: 108.2 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

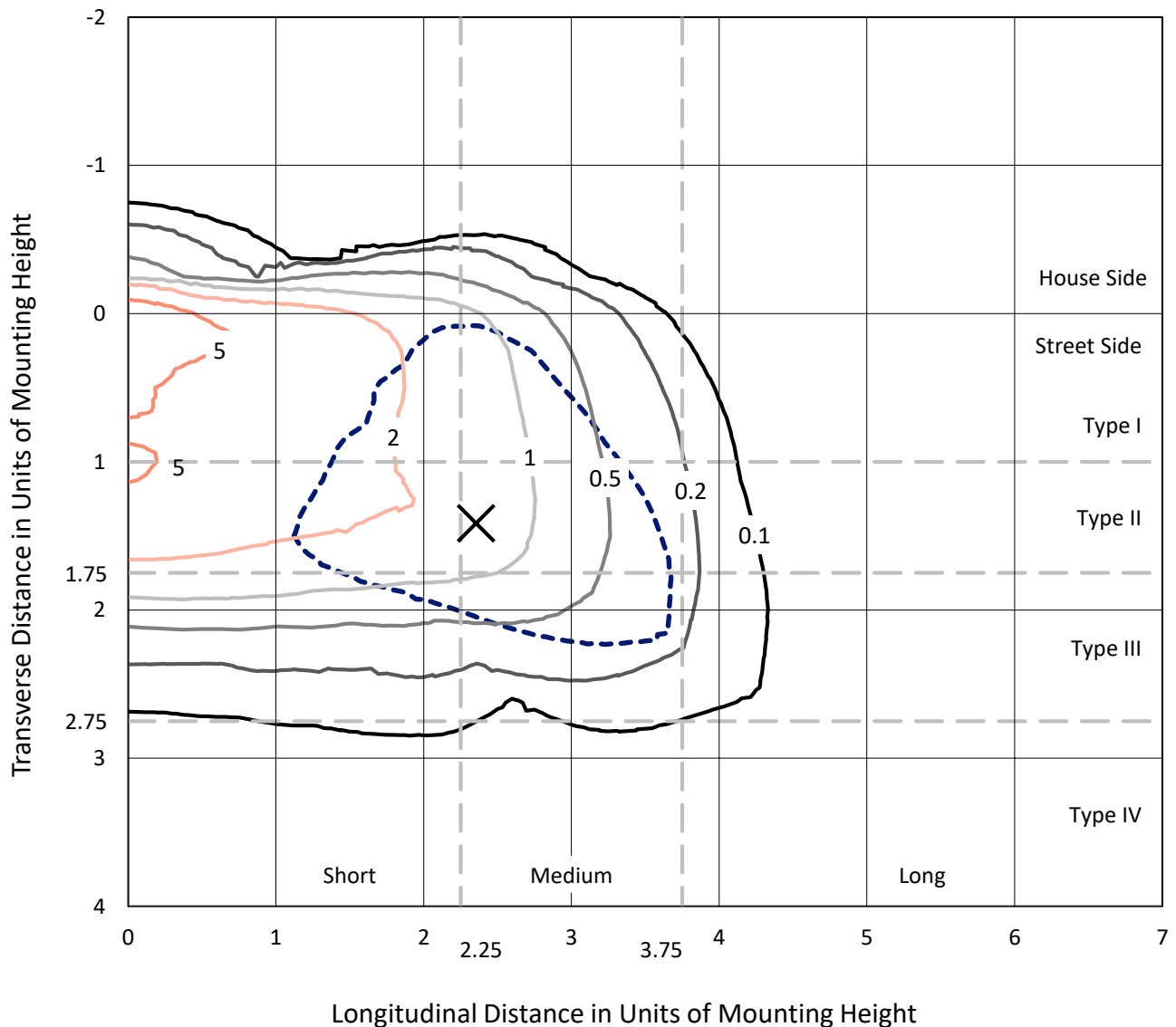
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P196108
 CATALOG NUMBER: NAV-AF-04-D-UNV-SL3-600-HSS

Iso-Footcandle Lines of Horizontal Illumination

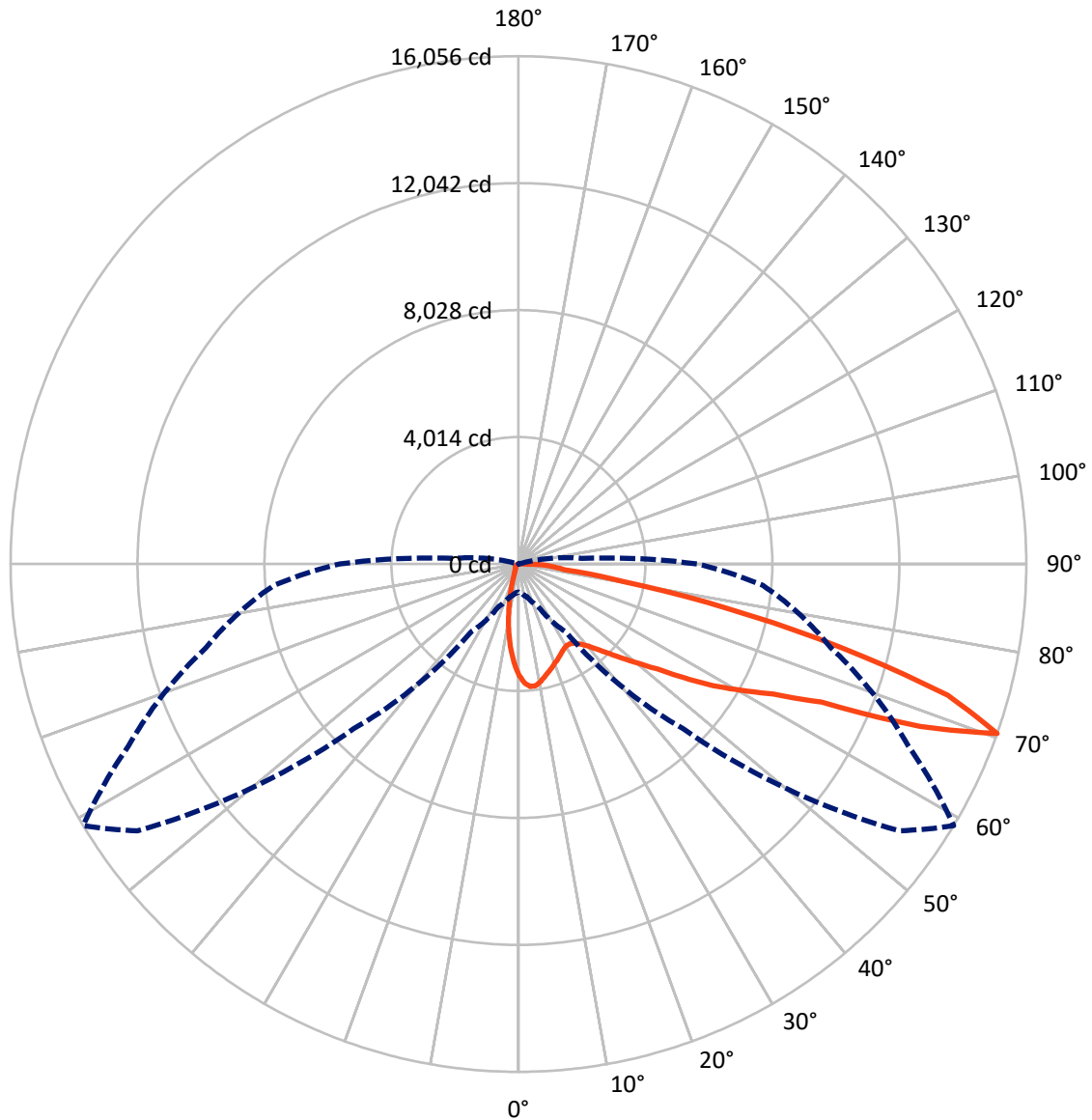
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 9.4 fc
 Type III - Medium - Non-Cutoff

REPORT NUMBER: P196108
CATALOG NUMBER: NAV-AF-04-D-UNV-SL3-600-HSS

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	1073.0	0.0	1073.0
	% Fixture	7.7	0.0	7.7
Street Side	Lumens	12885.2	0.0	12885.2
	% Fixture	92.3	0.0	92.3
Total	Lumens	13958.2	0.0	13958.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	290.2	2.1
10°-20°	608.7	4.4
20°-30°	824.0	5.9
30°-40°	1189.2	8.5
40°-50°	1975.0	14.1
50°-60°	3021.0	21.6
60°-70°	3757.4	26.9
70°-80°	2077.1	14.9
80°-90°	215.4	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°	13958.2	100.0
0°-180°	13958.2	100.0



REPORT NUMBER: P196108

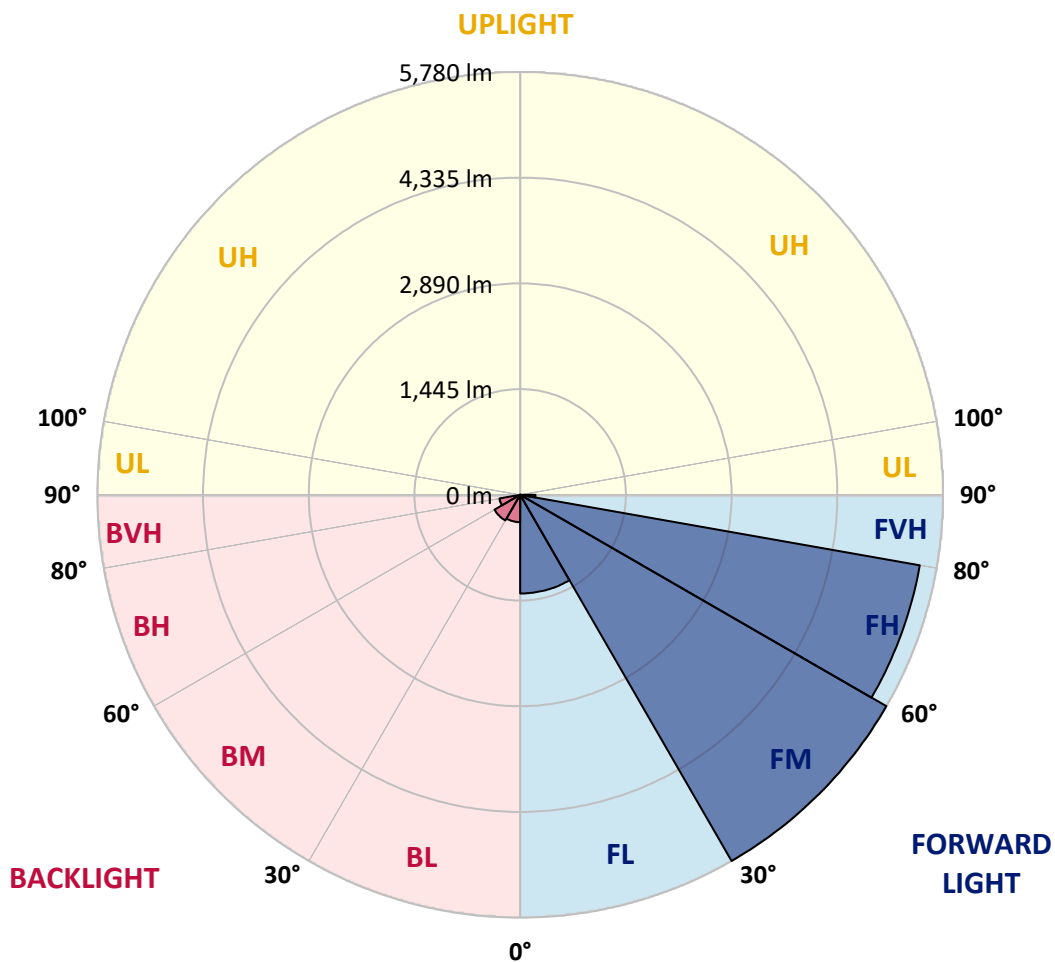
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1349.1	9.7			
FM	(30°-60°)	5780.2	41.4			
FH	(60°-80°)	5546.7	39.7			G3/7500
FVH	(80°-90°)	209.2	1.5			G2/225
BL	(0°-30°)	373.9	2.7	B1/500		
BM	(30°-60°)	405.0	2.9	B1/1000		
BH	(60°-80°)	287.8	2.1	B1/500		G1/500
BVH	(80°-90°)	6.2	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





REPORT NUMBER: P196108
 CATALOG NUMBER: NAV-AF-04-D-UNV-SL3-600-HSS

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	3529.5	3529.5	3529.5	3529.5	3529.5	3529.5	3529.5	3529.5	3529.5	3529.5	3529.5
2.5°	3989.6	3983.4	3957.0	3951.8	3922.3	3863.3	3794.8	3767.5	3711.7	3623.2	3525.3
5°	4056.0	4059.2	4061.2	4049.7	4045.5	3997.1	3921.2	3888.5	3813.8	3668.5	3489.5
7.5°	3807.5	3815.9	3842.2	3853.9	3904.4	3923.3	3907.6	3886.5	3827.5	3655.8	3404.2
10°	3545.3	3561.1	3589.5	3608.5	3670.7	3721.2	3785.4	3790.6	3778.1	3613.8	3308.4
12.5°	3320.0	3334.7	3366.3	3404.2	3467.4	3532.7	3628.5	3662.2	3704.3	3586.4	3240.0
15°	3126.2	3130.4	3161.0	3208.4	3291.5	3381.1	3494.8	3544.2	3626.4	3575.8	3187.3
17.5°	2956.7	2957.8	2977.8	3021.0	3122.0	3240.0	3372.7	3437.9	3542.2	3561.1	3141.0
20°	2845.1	2844.0	2845.1	2868.3	2957.8	3097.8	3258.9	3327.4	3461.1	3543.2	3093.6
22.5°	2807.2	2802.0	2777.7	2769.2	2826.1	2949.4	3142.0	3231.5	3388.4	3538.0	3058.8
25°	2853.5	2850.4	2798.8	2750.3	2755.6	2832.4	3023.0	3132.6	3331.5	3556.9	3050.4
27.5°	3003.1	2996.7	2917.8	2822.9	2763.0	2776.7	2934.6	3049.4	3286.3	3603.2	3062.0
30°	3198.9	3199.9	3115.7	3000.9	2859.9	2781.9	2887.2	2995.7	3255.7	3672.7	3087.3
32.5°	3416.9	3415.8	3355.8	3223.1	3043.1	2878.8	2908.2	2999.9	3259.9	3774.9	3135.8
35°	3642.2	3630.6	3610.6	3493.7	3283.2	3048.3	3004.1	3071.5	3304.2	3909.6	3217.8
37.5°	3902.3	3898.1	3918.1	3794.8	3580.0	3297.9	3172.6	3217.8	3415.8	4108.7	3350.5
40°	4316.0	4292.9	4302.4	4135.0	3914.9	3633.7	3408.5	3420.0	3593.7	4371.9	3560.1
42.5°	5104.7	5011.0	4835.2	4521.4	4283.4	4006.5	3717.0	3696.9	3845.4	4690.9	3836.0
45°	6047.2	5939.8	5496.4	4947.8	4652.0	4406.7	4098.1	4044.4	4155.0	5071.1	4191.8
47.5°	6833.7	6717.9	6130.3	5393.3	5026.8	4819.4	4520.3	4457.2	4525.6	5512.3	4619.3
50°	7102.2	7038.0	6522.0	5763.9	5404.9	5282.7	5050.0	4944.7	4961.5	5988.1	5118.4
52.5°	6979.0	6956.9	6611.5	6017.6	5754.4	5794.4	5630.2	5519.6	5500.6	6508.3	5670.2
55°	6718.9	6708.4	6539.9	6158.8	6062.9	6263.0	6444.1	6348.3	6169.3	7061.1	6126.1
57.5°	6347.2	6387.2	6508.3	6430.4	6442.0	6757.9	7200.1	7249.7	6982.2	7501.3	6464.1
60°	5354.3	5461.7	6016.6	6722.1	7262.2	7581.3	8009.8	8102.5	7670.8	7802.5	6854.8
62.5°	3958.1	4111.9	4902.6	6198.8	7714.0	9147.0	9087.1	9046.0	8327.8	8205.7	7565.5
65°	2325.0	2505.0	3173.6	4843.6	7032.7	10153.7	11098.2	10529.5	9329.2	9043.9	8697.4
67.5°	1158.3	1159.3	1461.5	2556.6	5197.4	9451.3	14033.9	13705.3	11458.3	10279.0	9143.9
70°	890.8	915.0	1081.4	1485.7	2628.2	7361.3	14706.7	16055.5	13597.9	10224.2	7758.2
72.5°	754.9	770.8	962.4	1293.0	1964.8	4041.3	12731.3	14191.8	12975.6	8638.5	5718.6
75°	543.3	556.0	851.8	1173.0	1809.0	2004.9	8733.2	10525.3	9735.6	6076.6	3147.3
77.5°	134.8	133.7	297.0	951.9	1618.4	1670.0	5011.0	6749.4	5585.9	2488.1	808.6
80°	60.0	57.9	67.4	200.1	1505.7	1576.3	2203.8	3408.5	2142.8	403.2	247.5
82.5°	42.1	40.0	42.1	73.8	503.3	1462.5	1332.0	1477.3	784.5	137.9	105.3
85°	13.7	12.7	23.1	62.1	141.1	843.4	1299.4	1103.5	583.4	58.9	70.6
87.5°	2.1	2.1	8.4	33.7	41.0	281.1	762.3	764.5	262.2	34.8	31.6
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°	3529.5	3529.5	3529.5	3529.5	3529.5	3529.5	3529.5	3529.5	3529.5	3529.5	3529.5
2.5°	3475.8	3413.7	3326.3	3238.9	3159.9	3078.9	3013.6	2983.0	2969.3	2950.4	2909.4
5°	3395.8	3283.2	3091.5	2903.0	2727.2	2558.7	2414.5	2332.3	2243.8	2239.6	2196.5
7.5°	3267.3	3107.3	2805.0	2512.4	2243.8	1987.0	1765.8	1622.6	1524.7	1463.6	1421.5
10°	3124.1	2918.8	2518.7	2107.0	1741.6	1398.4	1114.0	928.7	816.0	759.2	726.5
12.5°	3010.4	2752.5	2236.5	1718.5	1260.4	866.5	602.3	467.5	407.5	384.3	373.8
15°	2912.4	2599.7	1972.1	1371.0	841.3	498.1	348.5	304.3	294.8	294.8	293.8
17.5°	2813.5	2452.3	1715.3	1029.8	529.7	326.4	274.9	268.5	269.5	272.7	272.7
20°	2719.8	2312.3	1467.8	733.9	347.5	261.2	249.6	247.5	250.6	254.8	253.8
22.5°	2644.0	2189.1	1236.1	504.4	267.5	236.9	229.6	226.4	228.5	231.7	230.6
25°	2590.3	2083.9	1023.5	351.7	232.7	215.8	207.5	203.3	201.1	203.3	202.1
27.5°	2557.7	1995.4	823.4	264.3	208.5	194.8	184.2	175.8	170.6	170.6	168.5
30°	2536.6	1912.2	645.5	219.0	188.5	173.7	159.0	147.4	139.0	136.9	135.8
32.5°	2535.5	1840.6	482.2	193.7	169.5	152.7	134.8	120.0	110.6	108.4	107.4
35°	2561.9	1782.7	354.9	174.8	152.7	132.7	112.6	96.9	88.5	88.5	87.4
37.5°	2630.3	1748.9	268.5	160.1	139.0	115.8	94.7	80.0	72.6	74.8	74.8
40°	2757.7	1742.6	219.0	148.4	127.4	101.1	76.8	65.3	62.1	65.3	65.3
42.5°	2952.5	1776.4	194.8	140.0	116.9	86.3	64.2	55.9	54.7	57.9	57.9
45°	3206.2	1842.6	181.1	132.7	105.3	71.6	53.7	48.4	47.4	51.6	51.6
47.5°	3513.7	1932.1	168.5	124.3	93.7	58.9	45.3	41.0	41.0	45.3	46.3
50°	3878.0	2053.3	155.8	115.8	84.2	49.5	38.0	34.8	35.8	40.0	41.0
52.5°	4297.1	2201.7	144.2	108.4	73.8	40.0	31.6	29.5	30.6	34.8	35.8
55°	4658.3	2331.2	130.5	101.1	60.0	32.6	26.3	25.3	26.3	31.6	31.6
57.5°	4973.1	2455.5	117.9	89.5	47.4	26.3	21.1	21.1	23.1	28.4	29.5
60°	5391.2	2651.4	107.4	75.8	35.8	20.0	16.9	17.9	21.1	25.3	26.3
62.5°	6131.4	2984.0	93.7	63.2	26.3	15.8	13.7	14.7	18.9	24.2	25.3
65°	7058.0	3298.9	77.9	52.7	20.0	11.6	10.5	13.7	18.9	24.2	25.3
67.5°	6963.2	2869.3	61.1	42.1	14.7	9.5	8.4	12.7	17.9	24.2	25.3
70°	5647.0	2011.1	45.3	28.4	11.6	8.4	8.4	12.7	17.9	23.1	24.2
72.5°	3917.0	1119.3	34.8	18.9	10.5	8.4	7.4	11.6	16.9	23.1	24.2
75°	1863.7	343.3	27.4	13.7	9.5	7.4	6.3	11.6	16.9	23.1	24.2
77.5°	358.0	87.4	22.1	11.6	8.4	7.4	6.3	10.5	16.9	22.1	23.1
80°	121.1	39.0	17.9	10.5	8.4	7.4	6.3	10.5	15.8	21.1	22.1
82.5°	66.3	22.1	15.8	9.5	8.4	6.3	5.2	9.5	14.7	21.1	22.1
85°	51.6	15.8	12.7	9.5	8.4	6.3	5.2	9.5	14.7	20.0	21.1
87.5°	26.3	11.6	10.5	9.5	8.4	6.3	5.2	8.4	13.7	18.9	21.1
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)