

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: P196085

Luminaire Tested: **NAV-AF-05-D-UNV-SL2-600**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196085  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24257)  
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-SL2-600  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(5) 70 CRI, 4000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL  
LIGHT ELIMINATOR OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 19868.8 lumens  
Efficiency: N/A  
Efficacy: 122.6 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')  
IES Classification: Type II - Medium - Semi-Cutoff  
BUG Rating: B3 - U0 - G3

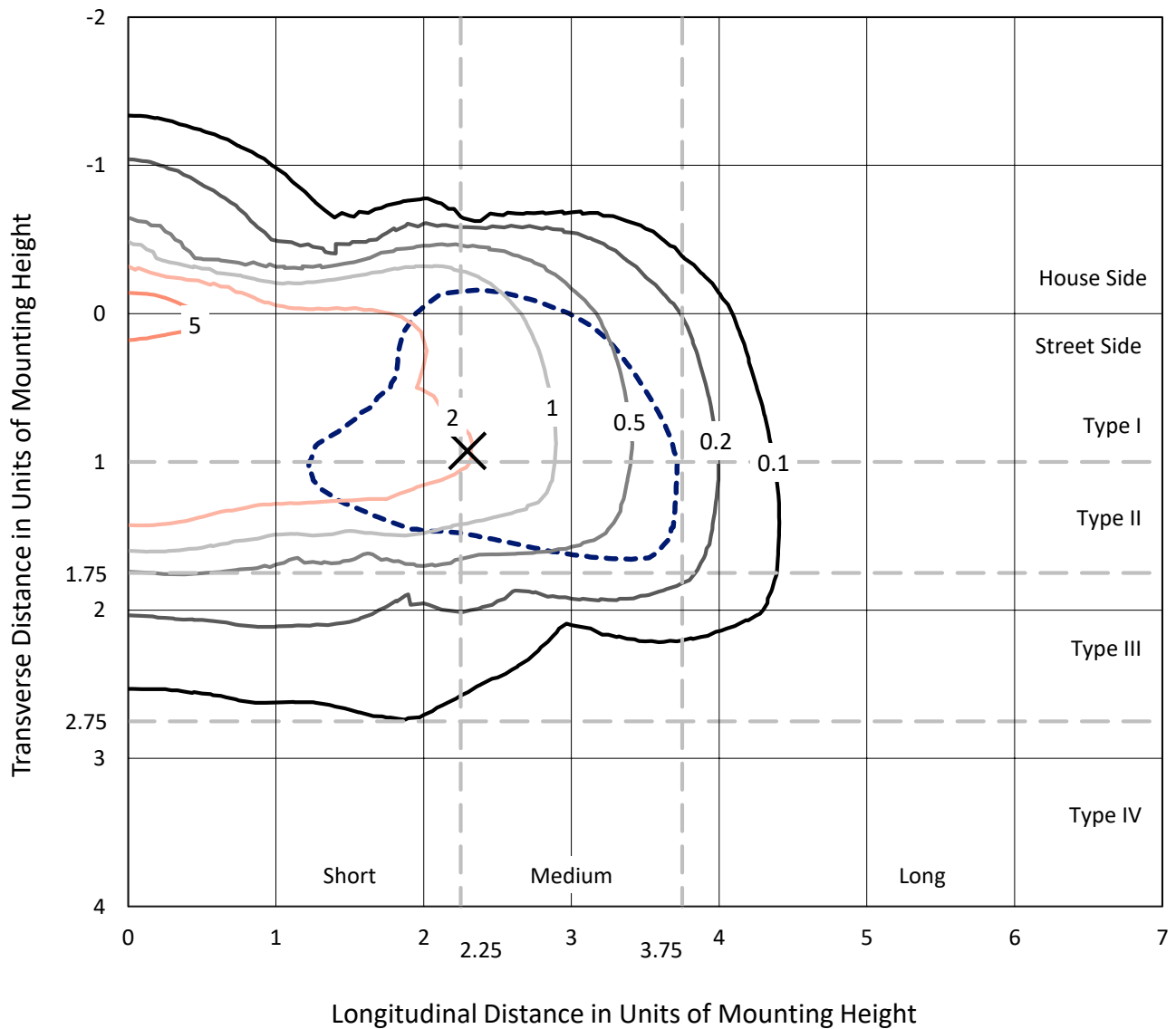
Input Watts (W): 162  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

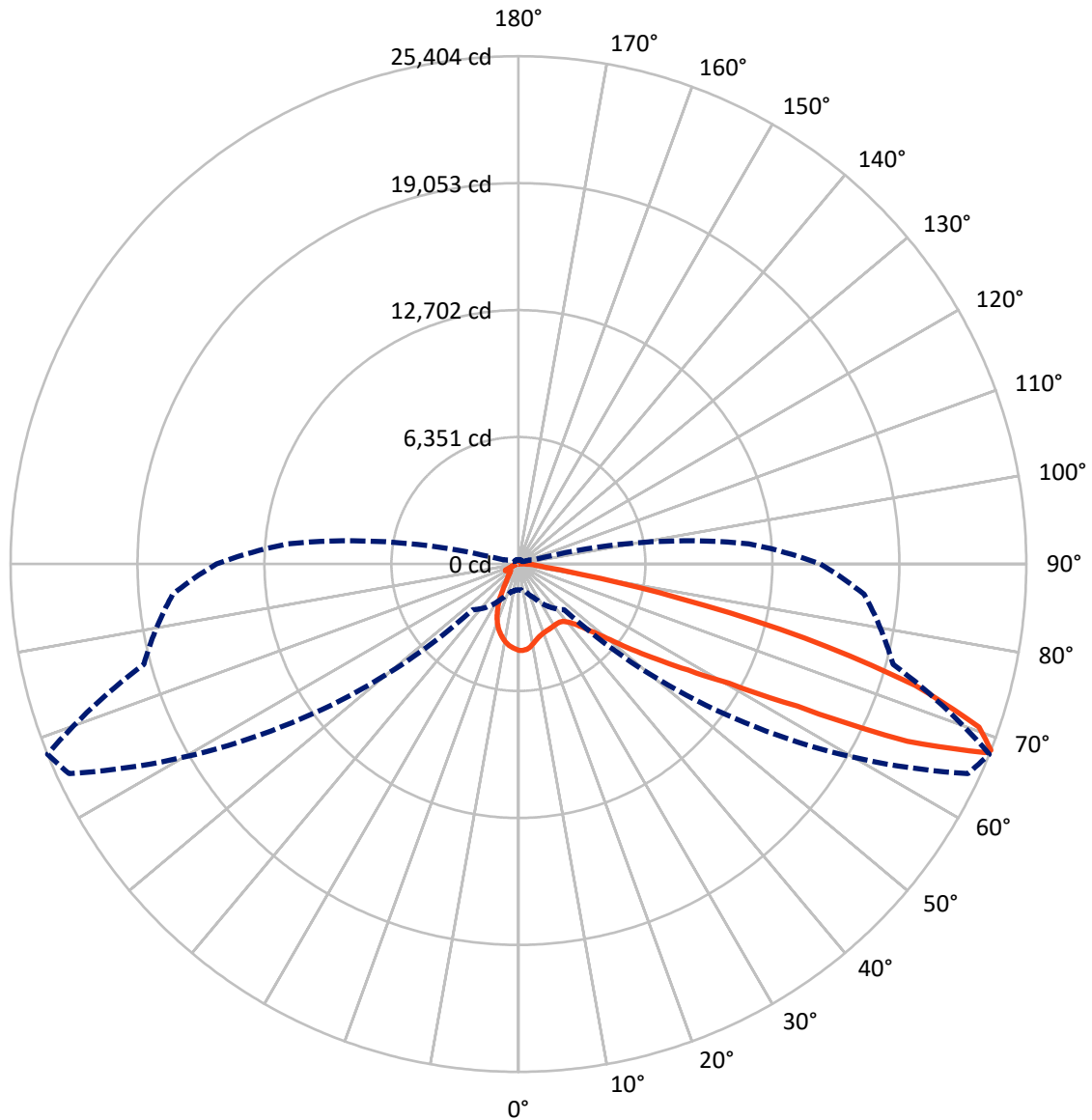
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.9 fc  
 Type II - Medium - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral    - - - Horizontal Cone Through 68-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3250.6	0.0	3250.6
	% Fixture	16.4	0.0	16.4
<b>Street Side</b>	Lumens	16618.2	0.0	16618.2
	% Fixture	83.6	0.0	83.6
<b>Total</b>	Lumens	19868.8	0.0	19868.8
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	370.4	1.9
10°-20°	859.2	4.3
20°-30°	1162.0	5.8
30°-40°	1638.4	8.2
40°-50°	2694.1	13.6
50°-60°	4176.0	21.0
60°-70°	5414.6	27.3
70°-80°	3107.1	15.6
80°-90°	447.1	2.3
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°	19868.8	100.0
0°-180°	19868.8	100.0



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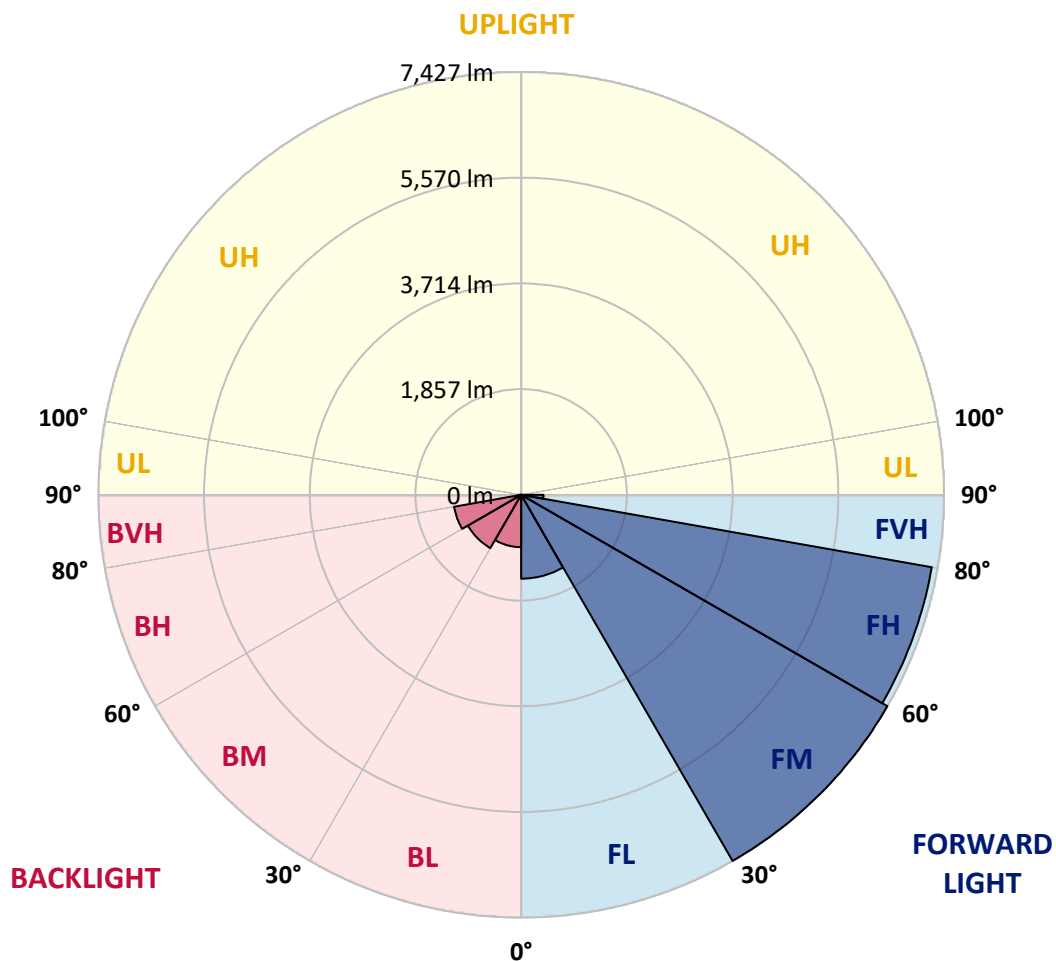
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1472.6	7.4			
FM (30°-60°)	7427.3	37.4			
FH (60°-80°)	7324.5	36.9			G3/7500
FVH (80°-90°)	393.8	2.0			G3/500
BL (0°-30°)	919.0	4.6	B2/1000		
BM (30°-60°)	1081.2	5.4	B2/2500		
BH (60°-80°)	1197.2	6.0	B3/2500		G3/2500
BVH (80°-90°)	53.3	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G3**

Type II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	4323.3	4323.3	4323.3	4323.3	4323.3	4323.3	4323.3	4323.3	4323.3	4323.3	4323.3
2.5°	4207.8	4241.5	4241.5	4266.1	4288.2	4306.4	4322.0	4322.0	4322.0	4311.6	4302.5
5°	3765.2	3810.6	3817.1	3879.4	3961.2	4061.1	4172.7	4271.3	4290.9	4327.2	4341.4
7.5°	3457.6	3471.9	3496.5	3539.3	3622.4	3745.7	3921.0	4141.5	4194.8	4309.0	4368.7
10°	3239.5	3251.2	3272.0	3314.8	3390.1	3501.7	3674.3	3961.2	4049.5	4251.9	4369.9
12.5°	3079.9	3089.0	3108.4	3147.4	3223.9	3323.9	3500.4	3798.9	3908.0	4194.8	4388.2
15°	2955.3	2970.9	2986.4	3024.0	3102.0	3197.9	3377.1	3680.8	3798.9	4149.4	4421.9
17.5°	2906.0	2913.8	2916.3	2935.9	3005.9	3103.2	3282.3	3597.7	3719.8	4113.0	4447.9
20°	2937.1	2938.4	2912.4	2899.5	2939.8	3029.3	3203.2	3535.4	3660.0	4080.6	4458.2
22.5°	3073.4	3073.4	3005.9	2948.8	2921.5	2977.4	3150.0	3492.7	3627.6	4055.9	4458.2
25°	3333.0	3321.3	3216.2	3103.2	2982.5	2959.2	3116.2	3465.3	3602.9	4042.9	4441.3
27.5°	3674.3	3663.9	3530.3	3362.8	3144.8	2998.2	3104.6	3443.3	3578.3	4023.5	4405.0
30°	4089.7	4080.6	3928.7	3709.3	3387.5	3121.4	3131.8	3427.7	3558.8	3991.0	4344.1
32.5°	4503.6	4498.5	4377.8	4153.3	3722.3	3330.4	3203.2	3425.1	3548.4	3952.1	4270.1
35°	4920.3	4920.3	4846.3	4656.8	4172.7	3644.5	3352.4	3473.1	3567.8	3931.3	4206.5
37.5°	5535.5	5510.8	5373.3	5177.3	4739.8	4052.0	3593.8	3574.4	3643.1	3966.4	4185.7
40°	6488.2	6416.8	6072.8	5743.2	5358.9	4573.7	3946.9	3770.4	3811.9	4085.8	4235.0
42.5°	7484.9	7372.0	6916.5	6389.6	5998.9	5217.6	4410.2	4088.3	4087.1	4316.8	4392.0
45°	8340.2	8281.8	7788.6	7120.2	6729.6	5941.7	4995.6	4560.8	4514.1	4675.0	4694.4
47.5°	8837.4	8798.4	8501.1	7893.8	7596.5	6797.0	5737.9	5216.2	5128.0	5224.0	5194.1
50°	8699.8	8737.4	8651.7	8341.6	8528.4	7998.9	6684.2	6114.4	5946.9	6043.0	5970.2
52.5°	7975.5	8076.8	8153.3	8213.1	9064.5	9606.9	7873.0	7235.7	7096.8	7079.9	7009.9
55°	6671.2	6832.1	7073.5	7512.1	8920.4	10898.4	9949.6	8592.1	8389.5	8283.1	8310.4
57.5°	4540.1	4784.0	5304.5	6139.0	8171.5	11448.7	13020.4	10344.2	10001.5	9622.6	9710.8
60°	2501.0	2704.8	3323.9	4164.9	6462.2	11366.9	15742.1	13191.8	12113.2	11108.6	11290.3
62.5°	1618.5	1662.6	2123.3	2844.9	3966.4	10035.2	17254.1	17951.2	15665.5	13068.4	13324.1
65°	1300.5	1331.7	1557.4	2294.7	2763.2	6455.7	17321.6	22888.3	21381.4	15731.8	15739.5
67.5°	1270.6	1284.9	1416.0	1930.0	2591.9	3514.7	14972.4	24835.1	25184.2	18875.2	17355.4
68°	1288.8	1305.7	1438.1	1870.3	2590.6	3239.5	13838.1	24805.2	25403.6	19400.9	17355.4
70°	1136.9	1157.7	1466.6	1935.1	2480.2	2785.3	9475.9	23487.9	24451.0	20609.2	16467.6
72.5°	594.4	577.6	725.5	1527.6	2791.7	2902.1	5005.9	19622.8	20746.8	19086.7	14227.5
75°	463.4	421.9	406.2	603.5	2455.6	3009.8	2907.2	13947.1	14796.0	13758.9	9509.7
77.5°	436.1	385.4	355.6	356.9	1081.2	3131.8	2351.8	8207.9	8207.9	6563.5	3034.5
80°	350.5	303.7	284.3	324.5	521.7	2886.5	2454.3	3740.5	3190.2	1696.4	835.9
82.5°	231.0	206.3	207.7	263.5	395.9	1927.3	2842.4	1846.9	1387.4	751.5	491.9
85°	146.7	125.9	140.1	184.3	295.9	859.2	2813.8	1283.6	918.9	421.9	245.3
87.5°	74.0	57.1	70.1	96.1	180.4	246.6	2316.8	1146.0	681.4	175.2	133.7
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):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	4323.3	4323.3	4323.3	4323.3	4323.3	4323.3	4323.3	4323.3	4323.3	4323.3	4323.3
2.5°	4302.5	4274.0	4259.7	4236.3	4207.8	4179.2	4159.7	4150.6	4145.5	4148.1	4146.7
5°	4333.6	4296.0	4235.0	4148.1	4058.5	3963.7	3891.1	3835.2	3800.3	3789.8	3787.3
7.5°	4357.1	4302.5	4188.3	4029.9	3876.8	3710.7	3569.2	3456.2	3379.7	3344.6	3343.4
10°	4353.2	4283.0	4102.6	3869.0	3644.5	3400.5	3178.5	2989.1	2851.5	2785.3	2782.6
12.5°	4357.1	4261.0	3997.5	3680.8	3359.0	3009.8	2680.1	2385.5	2180.4	2083.1	2079.2
15°	4372.6	4237.6	3889.8	3470.6	3025.4	2532.2	2061.0	1691.1	1504.2	1440.6	1440.6
17.5°	4371.3	4198.7	3765.2	3226.6	2629.5	1968.9	1406.9	1178.4	1160.3	1218.7	1227.8
20°	4345.3	4136.4	3604.3	2937.1	2164.9	1362.8	953.9	921.5	1066.8	1227.8	1246.0
22.5°	4305.1	4055.9	3418.6	2601.0	1623.6	887.7	735.9	785.2	982.5	1182.3	1211.0
25°	4249.3	3958.5	3205.8	2210.3	1079.8	638.5	613.9	674.9	813.8	947.5	968.2
27.5°	4167.5	3835.2	2973.5	1787.2	689.2	525.7	534.7	577.6	637.3	694.4	706.0
30°	4065.0	3691.2	2720.3	1318.7	523.0	469.8	485.4	511.4	537.4	573.7	581.4
32.5°	3961.2	3544.5	2456.9	905.9	456.8	440.0	455.5	469.8	491.9	516.6	521.7
35°	3867.7	3408.3	2185.6	632.1	428.3	420.5	428.3	437.4	459.4	484.2	486.7
37.5°	3800.3	3296.7	1902.7	499.7	411.4	403.7	407.5	411.4	437.4	473.7	477.6
40°	3791.2	3222.7	1615.9	449.1	398.4	388.1	385.4	388.1	421.9	463.4	467.3
42.5°	3879.4	3226.6	1335.6	428.3	388.1	376.3	366.0	371.2	401.0	433.5	436.1
45°	4088.3	3317.4	1092.8	419.2	379.0	369.9	354.4	356.9	371.2	388.1	390.7
47.5°	4457.0	3516.0	907.3	414.0	371.2	363.5	343.9	336.1	337.5	346.6	346.6
50°	5046.2	3848.2	794.3	408.9	364.7	350.5	328.4	312.8	308.9	314.0	315.4
52.5°	5924.8	4418.0	739.8	398.4	353.0	333.6	308.9	293.3	286.8	292.1	292.1
55°	7112.5	5327.8	713.8	384.2	338.7	312.8	290.7	277.7	272.5	276.4	276.4
57.5°	8466.1	6510.2	758.0	364.7	320.6	290.7	275.2	266.1	262.2	266.1	267.4
60°	10074.2	8057.3	1061.7	340.0	301.2	271.3	262.2	257.0	254.4	258.3	258.3
62.5°	12211.9	10115.8	1643.2	320.6	280.4	253.1	250.5	247.9	245.3	249.2	249.2
65°	14519.5	11988.6	1691.1	308.9	262.2	237.5	238.9	238.9	236.2	240.1	240.1
67.5°	15254.0	11826.3	944.9	294.6	240.1	222.0	227.1	227.1	225.9	229.8	228.4
68°	15098.3	11569.4	822.9	290.7	236.2	218.1	223.2	224.5	223.2	227.1	225.9
70°	13938.0	10157.3	541.2	268.6	219.3	205.1	212.9	214.1	212.9	218.1	216.8
72.5°	11505.7	7618.6	399.8	234.9	198.6	188.2	196.0	197.3	198.6	203.8	202.4
75°	7307.1	4207.8	315.4	199.9	177.8	168.7	176.6	180.4	183.0	190.8	186.9
77.5°	2001.3	1277.2	255.6	170.0	153.1	149.2	154.5	159.7	162.2	171.3	164.8
80°	700.8	564.6	212.9	144.0	127.2	125.9	131.0	136.3	138.9	146.7	138.9
82.5°	425.8	368.6	170.0	112.9	99.9	98.6	105.2	110.3	112.9	112.9	107.7
85°	222.0	194.7	124.6	79.2	68.7	64.9	76.6	83.1	84.4	83.1	79.2
87.5°	124.6	110.3	66.2	37.6	31.2	32.4	40.2	49.3	53.2	52.0	49.3
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)