

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: P196325

Luminaire Tested: **NAV-AF-05-D-UNV-T3R-600**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196325  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24250)  
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-T3R-600  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(5) 70 CRI, 4000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III  
ROADWAY OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 20613.5 lumens  
Efficiency: N/A  
Efficacy: 127.2 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')  
IES Classification: Type III - Medium - Full Cutoff  
BUG Rating: B2 - U0 - G4

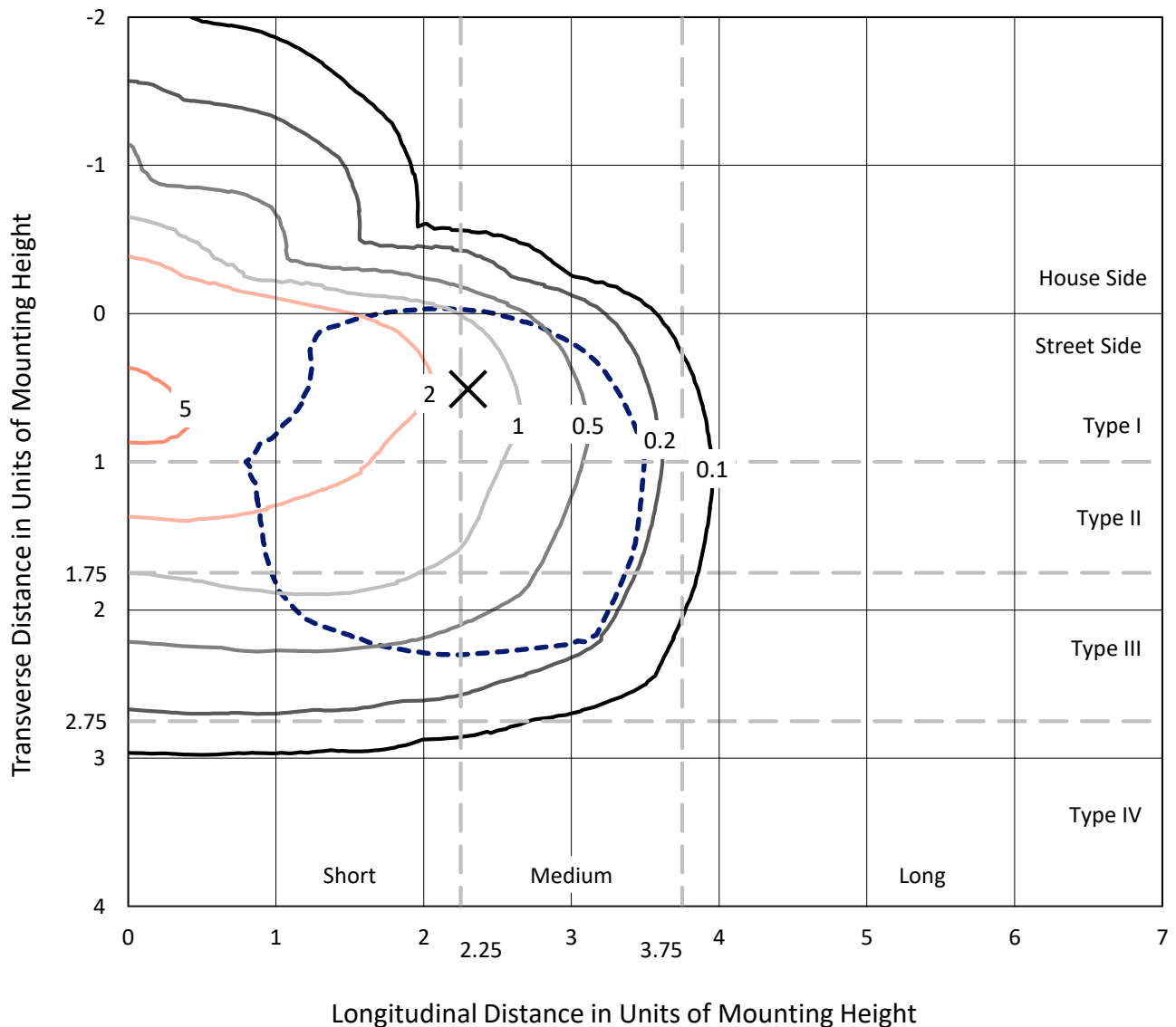
Input Watts (W): 162  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

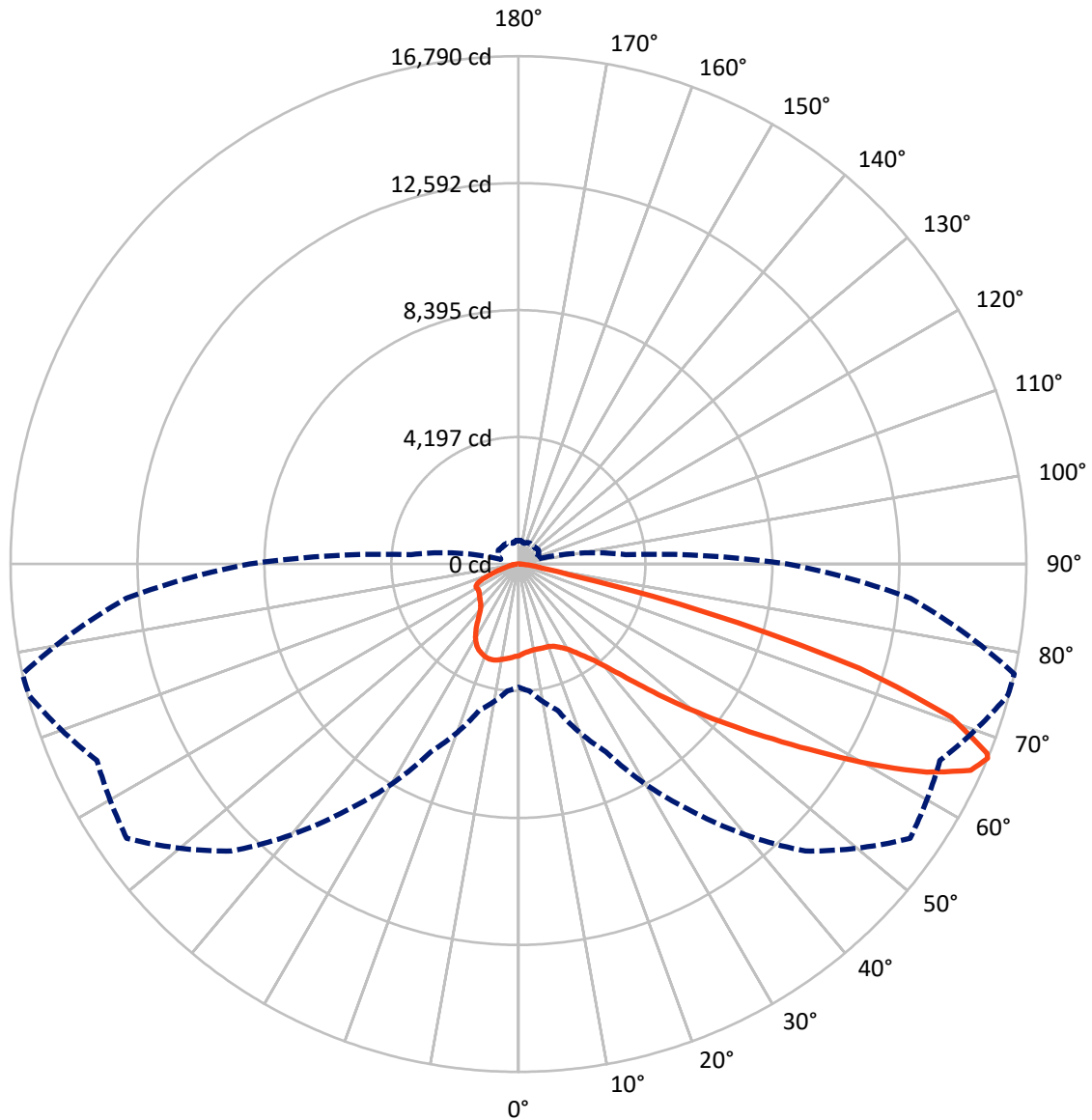
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.8 fc  
 Type III - Medium - Full Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 77.5-Deg Lateral    - - - Horizontal Cone Through 67-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3542.4	0.0	3542.4
	% Fixture	17.2	0.0	17.2
<b>Street Side</b>	Lumens	17071.1	0.0	17071.1
	% Fixture	82.8	0.0	82.8
<b>Total</b>	Lumens	20613.5	0.0	20613.5
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	270.2	1.3
10°-20°	748.3	3.6
20°-30°	1271.4	6.2
30°-40°	2034.0	9.9
40°-50°	3131.3	15.2
50°-60°	4344.3	21.1
60°-70°	5795.1	28.1
70°-80°	2757.9	13.4
80°-90°	261.1	1.3
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°	20613.5	100.0
0°-180°	20613.5	100.0



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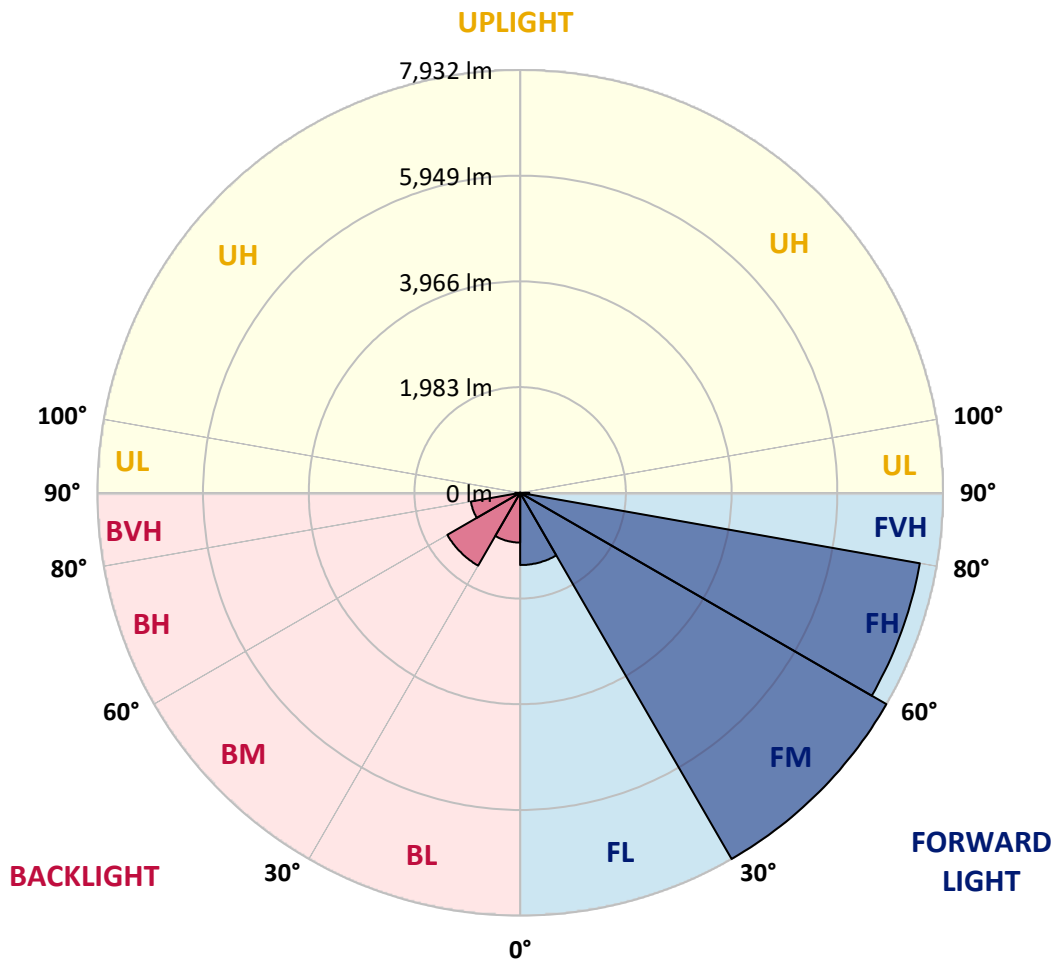
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1355.5	6.6			
FM	(30°-60°)	7932.3	38.5			
FH	(60°-80°)	7613.7	36.9			G4/12000
FVH	(80°-90°)	169.6	0.8			G2/225
BL	(0°-30°)	934.3	4.5	B2/1000		
BM	(30°-60°)	1577.3	7.7	B2/2500		
BH	(60°-80°)	939.3	4.6	B2/1000		G2/1000
BVH	(80°-90°)	91.5	0.4			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G4**

Type III Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	77.5°	85°
0°	3033.8	3033.8	3033.8	3033.8	3033.8	3033.8	3033.8	3033.8	3033.8	3033.8	3033.8
2.5°	2720.3	2733.0	2734.3	2771.3	2787.8	2829.9	2875.7	2916.5	2952.2	2964.9	2987.9
5°	2447.6	2447.6	2451.5	2475.6	2522.8	2590.3	2686.0	2790.4	2900.0	2926.8	2994.3
7.5°	2304.9	2307.5	2310.0	2334.3	2371.2	2431.0	2526.7	2669.4	2851.6	2896.2	3014.6
10°	2317.7	2313.9	2301.1	2296.0	2311.4	2349.5	2432.4	2578.9	2810.8	2879.6	3051.6
12.5°	2517.7	2510.1	2468.1	2406.9	2350.8	2336.8	2394.1	2533.0	2791.6	2879.6	3114.1
15°	2860.5	2865.6	2782.7	2655.4	2508.8	2409.5	2401.8	2516.5	2785.3	2887.3	3186.7
17.5°	3306.4	3308.9	3194.3	3009.5	2766.2	2561.1	2454.1	2516.5	2785.3	2894.8	3256.8
20°	3780.4	3762.6	3632.6	3400.7	3084.7	2771.3	2549.6	2531.7	2793.0	2906.3	3323.0
22.5°	4186.8	4170.3	4034.0	3790.6	3428.7	3019.8	2678.3	2582.7	2835.0	2953.5	3416.0
25°	4542.4	4552.5	4420.1	4146.1	3771.5	3300.0	2870.7	2700.0	2922.9	3038.9	3530.7
27.5°	4974.3	4955.2	4802.2	4541.1	4124.4	3590.6	3111.5	2847.7	3027.4	3142.1	3670.9
30°	5473.8	5464.8	5258.5	4989.5	4513.1	3915.4	3349.8	3007.0	3163.7	3283.5	3846.7
32.5°	6080.3	6079.0	5857.3	5527.3	4950.1	4282.5	3631.4	3224.9	3362.5	3483.6	4079.8
35°	6767.0	6765.8	6536.5	6100.7	5453.4	4688.9	3962.6	3489.9	3608.4	3735.8	4357.6
37.5°	7243.6	7235.9	7116.2	6693.2	6010.1	5161.6	4376.7	3846.7	3887.4	4030.1	4692.7
40°	7335.3	7381.2	7484.4	7234.6	6618.0	5686.6	4792.1	4230.2	4268.5	4451.9	5114.4
42.5°	7235.9	7295.8	7638.6	7708.7	7225.7	6322.3	5312.0	4761.5	4809.9	5038.0	5610.1
45°	7149.3	7201.6	7630.9	7971.1	7825.9	7015.5	5960.5	5410.1	5501.8	5784.7	6175.9
47.5°	7001.5	7049.9	7480.5	8018.3	8168.6	7683.2	6741.6	6189.9	6347.8	6690.6	6820.5
50°	6993.8	7015.5	7275.4	7860.3	8287.1	8190.3	7606.7	7102.1	7344.3	7739.2	7534.0
52.5°	6800.2	6951.8	7187.5	7608.0	8289.7	8485.9	8459.1	8102.4	8475.7	8912.7	8316.4
55°	5615.2	5789.8	6894.5	7484.4	8274.3	8739.5	9237.7	9166.3	9749.8	10209.8	9193.1
57.5°	5243.1	5317.1	6048.4	7521.3	8401.8	9158.6	10016.1	10309.2	11207.4	11709.5	10244.2
60°	5141.2	5218.9	5879.0	7539.1	8747.0	9921.8	11072.4	11600.0	12921.2	13453.8	11438.1
62.5°	5027.8	5128.5	5891.7	7555.7	9353.6	11050.7	12474.0	13000.2	14680.8	15156.0	12556.8
65°	4696.6	4830.3	5656.0	7451.3	10017.5	12467.6	14326.6	14460.4	16134.6	16436.6	13232.1
67°	4068.4	4214.9	5008.7	6847.3	9956.3	13421.9	15808.5	15373.9	16752.6	16789.6	13013.0
67.5°	3869.6	4021.2	4789.6	6596.3	9781.7	13546.8	16071.0	15500.1	16747.4	16706.7	12809.1
70°	2605.7	2776.4	3391.8	4843.1	7846.2	12607.8	16007.2	15111.4	15649.2	15181.5	11004.9
72.5°	1293.3	1298.3	1692.1	2652.8	4753.9	9042.7	13353.2	12927.5	12685.5	11802.5	8075.6
75°	623.1	634.5	798.9	1172.2	2004.3	4668.5	9106.4	8722.9	7427.0	6430.7	4041.6
77.5°	475.3	486.7	620.5	763.2	835.9	1522.7	4510.5	3645.4	2152.1	1718.9	1139.1
80°	366.9	388.6	523.6	586.2	553.0	610.3	1418.1	1116.1	837.1	768.3	564.5
82.5°	286.7	299.4	444.7	444.7	382.3	409.0	660.0	644.8	519.9	468.9	303.2
85°	202.5	228.1	358.0	331.2	251.0	253.6	395.0	378.4	267.6	215.3	118.5
87.5°	90.4	115.9	254.8	216.6	133.8	103.2	161.8	138.9	105.8	81.5	54.8
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°	3033.8	3033.8	3033.8	3033.8	3033.8	3033.8	3033.8	3033.8	3033.8	3033.8	3033.8
2.5°	3013.4	3033.8	3065.6	3084.7	3110.2	3120.4	3130.6	3148.4	3162.5	3158.7	3152.2
5°	3041.4	3075.8	3115.3	3128.1	3128.1	3115.3	3107.6	3109.0	3105.1	3102.6	3094.9
7.5°	3082.2	3129.3	3157.3	3144.7	3105.1	3055.5	3008.3	2980.3	2953.5	2936.9	2942.0
10°	3139.5	3191.7	3193.0	3137.0	3042.7	2934.3	2841.3	2781.5	2724.1	2698.6	2706.3
12.5°	3222.3	3274.6	3230.0	3109.0	2943.3	2773.8	2603.1	2479.5	2368.6	2341.9	2334.3
15°	3311.5	3352.3	3252.9	3049.0	2800.6	2521.6	2234.8	2050.1	1926.5	1904.8	1897.3
17.5°	3389.2	3412.2	3241.4	2942.0	2575.1	2135.5	1801.6	1676.8	1651.3	1664.0	1664.0
20°	3458.1	3450.4	3191.7	2776.4	2219.6	1707.4	1513.7	1512.4	1546.8	1578.7	1581.3
22.5°	3544.7	3484.8	3112.7	2530.5	1795.3	1424.5	1391.4	1424.5	1462.7	1498.4	1502.2
25°	3647.9	3523.0	3007.0	2180.1	1443.6	1293.3	1307.3	1335.4	1359.5	1387.5	1388.9
27.5°	3751.2	3552.3	2857.9	1768.5	1252.5	1209.1	1224.5	1235.9	1242.3	1260.2	1260.2
30°	3870.8	3575.3	2642.6	1416.9	1164.5	1135.3	1126.4	1121.3	1126.4	1150.5	1151.8
32.5°	4021.2	3616.0	2348.3	1215.6	1123.8	1083.0	1037.2	1011.7	1029.5	1072.9	1080.4
35°	4192.0	3664.5	1995.4	1135.3	1109.8	1057.5	973.4	934.0	940.3	979.8	986.2
37.5°	4406.1	3726.9	1647.5	1116.1	1123.8	1055.0	944.2	888.1	860.1	861.3	860.1
40°	4680.0	3789.3	1372.3	1121.3	1154.4	1061.4	930.2	842.2	783.6	786.1	791.3
42.5°	4966.6	3830.1	1197.7	1136.5	1191.3	1070.3	925.1	797.6	746.7	790.0	829.5
45°	5301.7	3818.7	1107.2	1150.5	1219.4	1074.1	905.9	792.5	750.4	880.5	954.3
47.5°	5686.6	3769.0	1056.3	1157.0	1227.0	1072.9	891.9	809.1	782.4	1007.8	1092.0
50°	6104.5	3691.2	1015.5	1146.7	1223.1	1067.8	907.2	829.5	795.0	1035.8	1100.9
52.5°	6561.9	3619.9	973.4	1123.8	1204.1	1052.4	926.3	820.5	759.4	954.3	1004.0
55°	7103.4	3603.3	926.3	1084.3	1172.2	1035.8	916.2	792.5	719.9	846.1	876.7
57.5°	7722.7	3706.6	865.1	1035.8	1128.9	1002.8	891.9	777.2	705.8	769.6	786.1
60°	8508.8	3934.6	800.2	984.9	1075.4	953.1	870.2	781.0	709.7	758.1	761.9
62.5°	9123.0	4139.8	741.5	922.5	1004.0	893.1	847.3	784.9	721.2	773.5	767.0
65°	9345.9	4039.1	668.9	829.5	903.4	827.0	815.5	787.5	721.2	782.4	768.3
67°	8888.5	3558.7	600.2	736.4	807.8	768.3	784.9	777.2	708.4	781.0	756.9
67.5°	8670.6	3389.2	582.3	721.2	782.4	750.4	777.2	772.1	704.6	778.5	750.4
70°	7150.5	2431.0	491.8	605.2	654.9	661.2	730.1	739.0	674.0	731.4	680.4
72.5°	5087.7	1521.3	424.3	468.9	528.8	565.7	666.4	694.4	633.2	635.8	593.7
75°	2517.7	816.7	378.4	361.8	411.5	471.5	581.0	633.2	573.4	530.1	516.1
77.5°	849.9	462.5	319.8	291.7	319.8	378.4	481.6	553.0	505.8	448.5	439.6
80°	439.6	336.3	249.7	234.5	252.3	293.1	377.2	460.0	431.9	434.4	358.0
82.5°	273.9	205.1	179.6	178.4	191.1	224.2	277.7	373.4	370.8	317.2	230.6
85°	127.5	118.5	114.7	118.5	122.3	127.5	181.0	266.3	281.6	170.7	151.6
87.5°	53.5	52.3	45.8	49.7	54.8	53.5	72.6	113.4	158.0	107.0	98.1
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)