

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: P196144

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196144  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24262)  
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  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 70 CRI, 4000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III  
SPILL LIGHT ELIMINATOR OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 24924.2 lumens  
Efficiency: N/A  
Efficacy: 110.8 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Medium - Non-Cutoff  
BUG Rating: B3 - U0 - G4

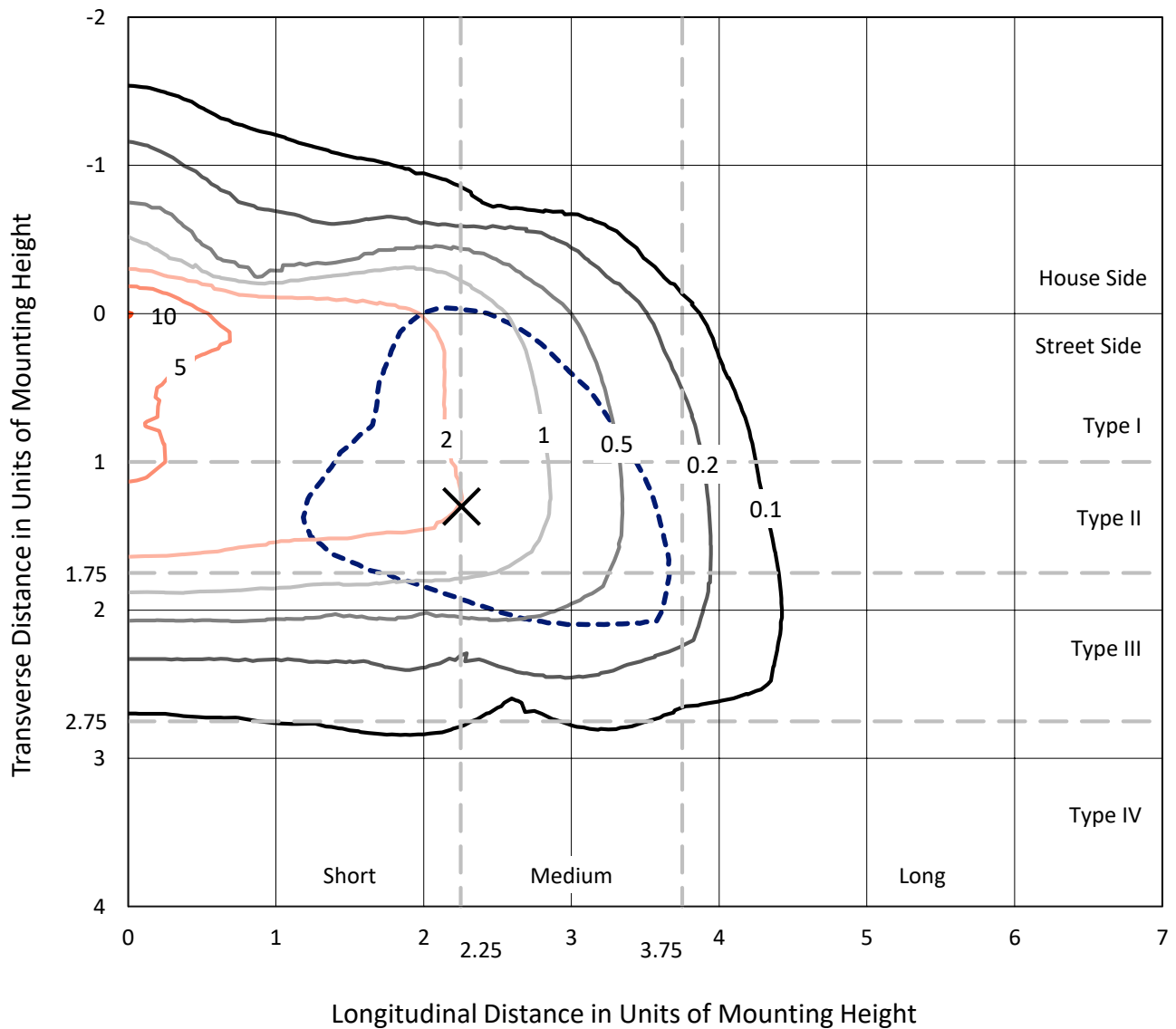
Input Watts (W): 225  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

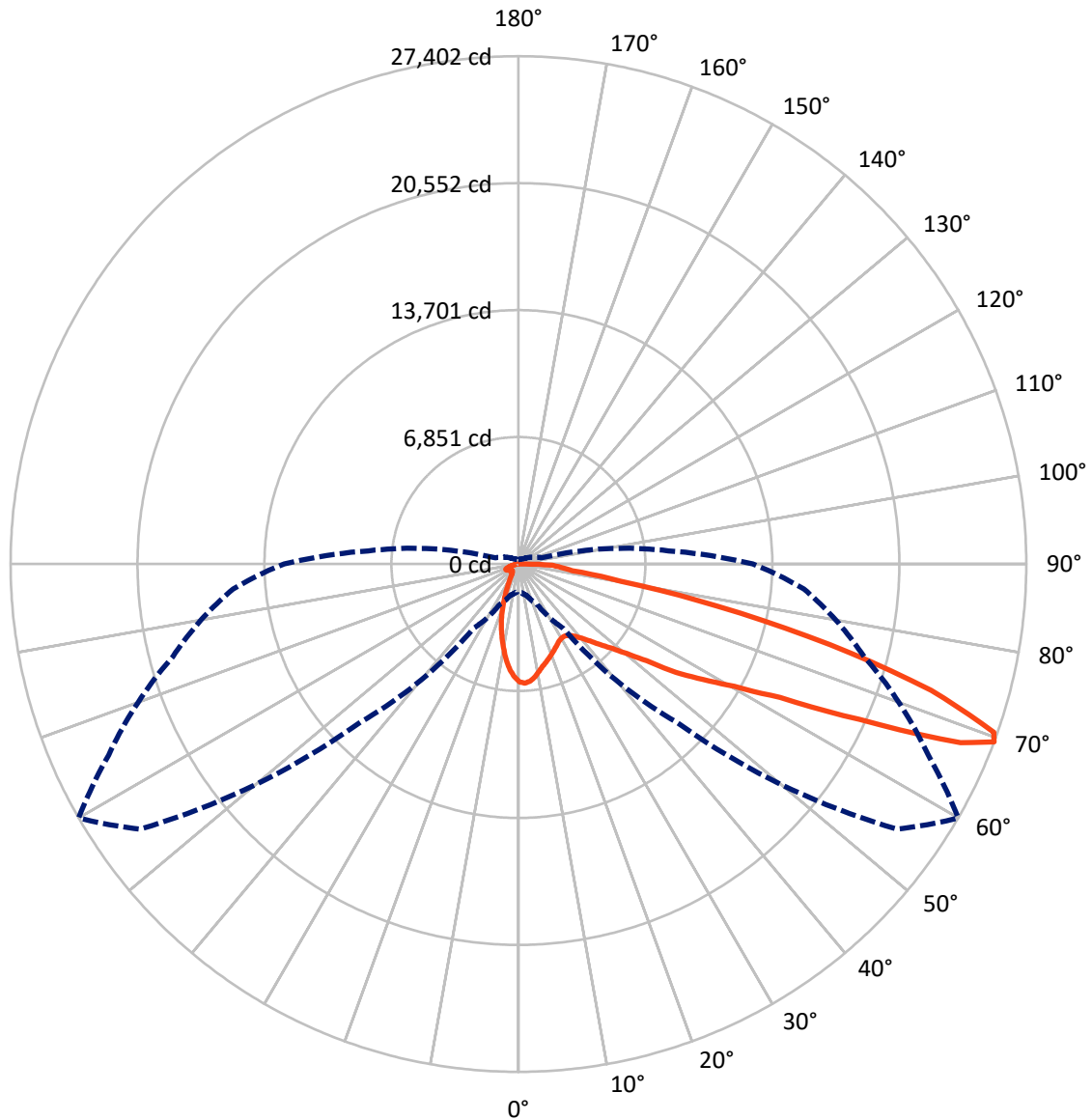


Based on 25 foot mounting height. Maximum calculated value = 10.2 fc  
 Type III - Medium - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 60-Deg Lateral    - - - Horizontal Cone Through 69-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3555.0	0.0	3555.0
	% Fixture	14.3	0.0	14.3
<b>Street Side</b>	Lumens	21369.2	0.0	21369.2
	% Fixture	85.7	0.0	85.7
<b>Total</b>	Lumens	24924.2	0.0	24924.2
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	539.5	2.2
10°-20°	1155.1	4.6
20°-30°	1473.6	5.9
30°-40°	2027.8	8.1
40°-50°	3284.6	13.2
50°-60°	5155.1	20.7
60°-70°	6872.7	27.6
70°-80°	3822.8	15.3
80°-90°	592.9	2.4
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°	24924.2	100.0
0°-180°	24924.2	100.0



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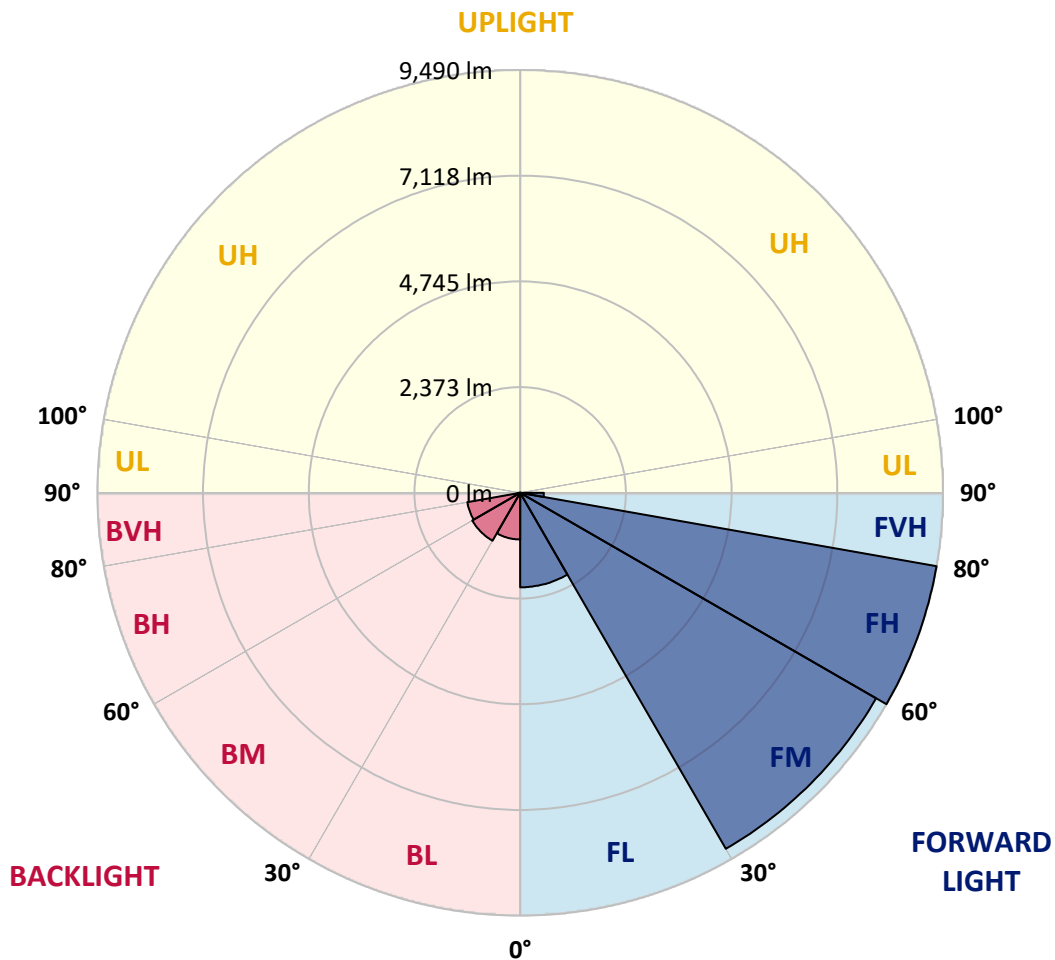
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2120.6	8.5			
FM	(30°-60°)	9225.6	37.0			
FH	(60°-80°)	9490.2	38.1			G4/12000
FVH	(80°-90°)	532.8	2.1			G4/750
BL	(0°-30°)	1047.7	4.2	B3/2500		
BM	(30°-60°)	1241.9	5.0	B2/2500		
BH	(60°-80°)	1205.3	4.8	B3/2500		G3/2500
BVH	(80°-90°)	60.1	0.2			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G4**

Type III Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	6359.5	6359.5	6359.5	6359.5	6359.5	6359.5	6359.5	6359.5	6359.5	6359.5	6359.5
2.5°	6528.9	6546.5	6546.5	6532.1	6524.1	6477.7	6450.6	6431.4	6397.8	6335.5	6279.6
5°	6295.5	6329.1	6343.5	6349.9	6391.5	6377.1	6378.7	6365.9	6337.1	6270.0	6178.9
7.5°	5867.2	5873.6	5899.2	5942.3	6043.1	6113.4	6170.8	6182.1	6175.7	6126.1	5998.3
10°	5445.3	5456.4	5486.8	5560.4	5656.2	5757.0	5881.6	5932.7	5971.1	5955.1	5793.7
12.5°	5095.2	5096.9	5130.4	5215.1	5322.2	5448.4	5617.9	5697.8	5788.9	5825.7	5645.1
15°	4758.1	4780.5	4812.4	4914.7	5047.3	5207.1	5402.1	5512.4	5632.3	5737.7	5530.0
17.5°	4502.3	4519.9	4539.0	4623.7	4777.2	4977.0	5218.4	5336.6	5494.8	5656.2	5411.7
20°	4361.7	4368.1	4353.7	4395.2	4524.7	4740.5	5020.1	5162.4	5351.0	5577.9	5290.3
22.5°	4332.9	4332.9	4280.1	4272.1	4329.7	4511.9	4815.5	4989.7	5219.9	5523.6	5181.6
25°	4467.1	4457.5	4358.5	4267.3	4246.6	4339.3	4620.6	4834.8	5108.0	5522.0	5100.0
27.5°	4721.2	4708.4	4585.4	4431.9	4299.4	4259.4	4470.3	4689.3	5020.1	5576.3	5058.5
30°	5037.7	5032.9	4908.2	4716.5	4497.5	4291.4	4411.2	4614.2	4961.0	5677.1	5056.9
32.5°	5384.5	5362.2	5285.5	5093.7	4809.2	4468.8	4446.4	4617.4	4945.0	5824.1	5093.7
35°	5753.8	5737.7	5718.6	5525.2	5205.6	4782.0	4601.4	4727.7	5023.3	6028.7	5197.5
37.5°	6223.6	6206.0	6238.1	6027.0	5677.1	5192.8	4863.5	4948.2	5183.2	6325.9	5391.0
40°	7059.5	7008.3	6918.8	6594.5	6226.8	5696.2	5242.3	5255.1	5456.4	6723.9	5701.0
42.5°	8432.4	8267.8	7825.1	7229.0	6807.0	6281.1	5736.2	5675.4	5833.7	7249.8	6151.7
45°	9808.6	9623.1	8875.1	7921.0	7407.9	6909.3	6346.7	6201.2	6303.5	7861.9	6731.8
47.5°	10697.2	10606.1	9762.2	8613.0	8037.6	7593.4	7045.2	6805.4	6878.9	8555.6	7447.9
50°	10957.6	10879.4	10216.1	9154.9	8632.2	8419.6	7909.8	7591.7	7604.5	9365.8	8306.2
52.5°	10762.7	10730.8	10291.2	9490.5	9178.8	9290.7	9106.9	8664.2	8558.7	10254.5	9236.3
55°	10502.2	10513.4	10344.0	9827.7	9735.0	10102.7	10673.2	10316.8	9869.2	11179.8	10205.0
57.5°	9682.2	9690.3	10134.6	10470.2	10796.2	11240.6	11892.7	11742.5	11221.4	12178.7	11290.1
60°	7796.3	7858.6	8848.0	10337.5	12009.3	13482.9	13642.8	13383.9	12659.8	13329.6	12701.4
62.5°	5570.0	5625.9	6771.8	8974.2	11867.2	16020.9	16874.5	15845.2	14611.3	15050.9	14686.4
65°	2926.5	2916.8	3803.8	6201.2	9995.6	16609.1	21966.5	20214.8	17899.0	17417.9	16604.3
67.5°	1635.0	1687.8	2031.4	3127.8	6514.6	14617.8	25219.0	25735.2	22469.9	19295.8	16521.3
69°	1511.9	1529.5	1759.7	2418.2	4246.6	12060.5	24939.3	27402.2	24397.5	19303.8	15456.8
70°	1468.8	1488.0	1697.4	2228.0	3567.3	9882.0	23921.2	27207.2	24865.8	18875.5	14488.3
72.5°	1316.9	1342.5	1545.5	2002.6	3006.4	5093.7	19268.6	23286.7	22524.4	16497.2	11234.1
75°	1123.6	1166.8	1473.6	1988.2	2848.1	3238.0	12850.0	17349.1	16764.2	11798.4	6373.9
77.5°	465.1	469.8	644.0	1456.1	2988.8	3099.0	6906.0	10989.7	9728.7	5173.6	1919.5
80°	324.5	318.0	321.2	425.1	2411.8	3119.8	3543.4	5589.1	4344.1	1364.9	898.3
82.5°	273.3	270.1	282.8	266.9	816.7	3540.1	2963.2	2913.7	2045.8	735.2	428.3
85°	180.7	175.8	231.7	243.0	388.4	2811.4	3186.9	2290.3	1524.7	393.2	182.2
87.5°	87.9	89.5	132.7	164.6	206.2	890.3	3052.7	1810.8	1177.9	171.0	73.6
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°	6359.5	6359.5	6359.5	6359.5	6359.5	6359.5	6359.5	6359.5	6359.5	6359.5	6359.5
2.5°	6257.2	6209.2	6166.1	6111.7	6070.2	6035.0	5987.1	5985.5	5977.5	5988.7	5991.9
5°	6118.2	6038.3	5916.7	5780.9	5685.0	5558.7	5435.7	5394.1	5347.8	5343.0	5357.4
7.5°	5908.8	5784.1	5576.3	5368.5	5160.8	4948.2	4746.8	4644.5	4545.5	4515.1	4529.5
10°	5675.4	5517.2	5199.1	4860.3	4567.9	4251.4	3944.5	3746.4	3565.7	3489.0	3508.2
12.5°	5493.2	5291.8	4844.3	4404.8	3966.9	3513.0	3108.6	2717.1	2421.3	2288.8	2296.7
15°	5336.6	5079.3	4511.9	3926.9	3378.7	2757.0	2196.0	1742.1	1483.2	1387.3	1384.1
17.5°	5167.2	4855.5	4165.0	3482.6	2771.4	2002.6	1470.4	1201.9	1099.6	1067.7	1067.7
20°	4986.6	4625.4	3802.3	2998.4	2132.0	1398.5	1106.0	1002.1	963.7	954.2	952.6
22.5°	4818.7	4400.0	3437.8	2482.1	1542.3	1061.2	941.4	901.4	895.0	903.1	903.1
25°	4686.1	4201.9	3068.6	1938.7	1122.0	888.6	837.5	832.7	856.6	885.5	890.3
27.5°	4587.0	4024.4	2704.3	1416.1	882.2	773.6	756.0	776.7	832.7	890.3	901.4
30°	4518.3	3872.6	2268.0	1018.1	735.2	677.7	685.7	722.4	807.1	895.0	919.0
32.5°	4487.9	3749.5	1828.4	781.5	628.1	596.2	616.9	664.9	752.8	840.7	869.4
35°	4516.7	3660.0	1422.4	648.9	549.8	525.8	549.8	599.3	656.8	700.0	717.6
37.5°	4620.6	3628.1	1070.8	575.4	498.7	474.6	493.9	527.4	553.0	569.0	576.9
40°	4839.6	3661.7	839.1	537.0	469.8	442.7	447.5	463.5	481.1	493.9	495.4
42.5°	5188.0	3771.9	746.3	522.6	452.3	417.2	409.2	420.3	439.6	457.1	460.3
45°	5651.5	3955.8	736.8	527.4	444.3	396.4	380.4	391.6	417.2	445.9	450.7
47.5°	6250.8	4246.6	781.5	553.0	449.1	385.1	361.2	372.4	406.0	444.3	450.7
50°	6960.5	4649.3	864.7	591.4	471.5	385.1	353.2	362.8	397.9	441.1	447.5
52.5°	7796.3	5210.3	950.9	629.7	503.5	399.6	356.4	354.9	386.8	426.8	434.8
55°	8718.5	5907.1	1034.1	663.3	521.0	418.7	364.4	345.2	370.8	402.7	409.2
57.5°	9803.8	6861.3	1179.6	695.2	530.6	433.1	374.0	335.6	350.1	372.4	377.2
60°	11275.8	8263.0	1462.4	749.6	548.2	439.6	375.6	326.0	324.5	340.4	342.1
62.5°	13195.2	9904.4	1732.5	813.6	583.4	441.1	369.2	319.7	303.7	308.4	308.4
65°	14560.2	10508.6	1654.2	867.9	615.3	439.6	362.8	314.9	287.7	279.7	279.7
67.5°	13783.4	9282.7	1404.9	882.2	618.6	422.0	348.4	303.7	273.3	254.1	254.1
69°	12642.2	8136.8	1289.8	856.6	593.0	401.2	332.5	292.5	263.7	241.3	241.3
70°	11712.1	7268.9	1219.5	826.3	562.6	383.6	318.0	281.3	254.1	235.0	233.3
72.5°	8744.1	4850.7	1042.1	712.8	461.9	324.5	278.1	250.9	228.5	215.7	215.7
75°	4614.2	2430.9	853.4	581.8	356.4	258.9	228.5	210.9	198.1	196.6	195.0
77.5°	1511.9	1099.6	613.8	437.9	262.1	201.4	182.2	171.0	169.4	175.8	175.8
80°	816.7	656.8	394.8	295.6	182.2	150.3	140.7	139.0	143.8	153.4	153.4
82.5°	396.4	324.5	235.0	182.2	124.7	110.3	110.3	111.9	118.3	129.5	129.5
85°	171.0	153.4	135.8	102.3	76.7	68.7	78.4	86.3	91.1	99.1	102.3
87.5°	81.5	71.9	62.3	40.0	33.6	35.2	41.5	51.1	60.8	67.1	68.7
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)