

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: P196343

Luminaire Tested: **NAV-AF-05-D-UNV-T3R-1200**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196343  
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-1200  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(5) 70 CRI, 4000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III  
ROADWAY OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 34321 lumens  
Efficiency: N/A  
Efficacy: 107.3 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')  
IES Classification: Type III - Medium - Full Cutoff  
BUG Rating: B3 - U0 - G5

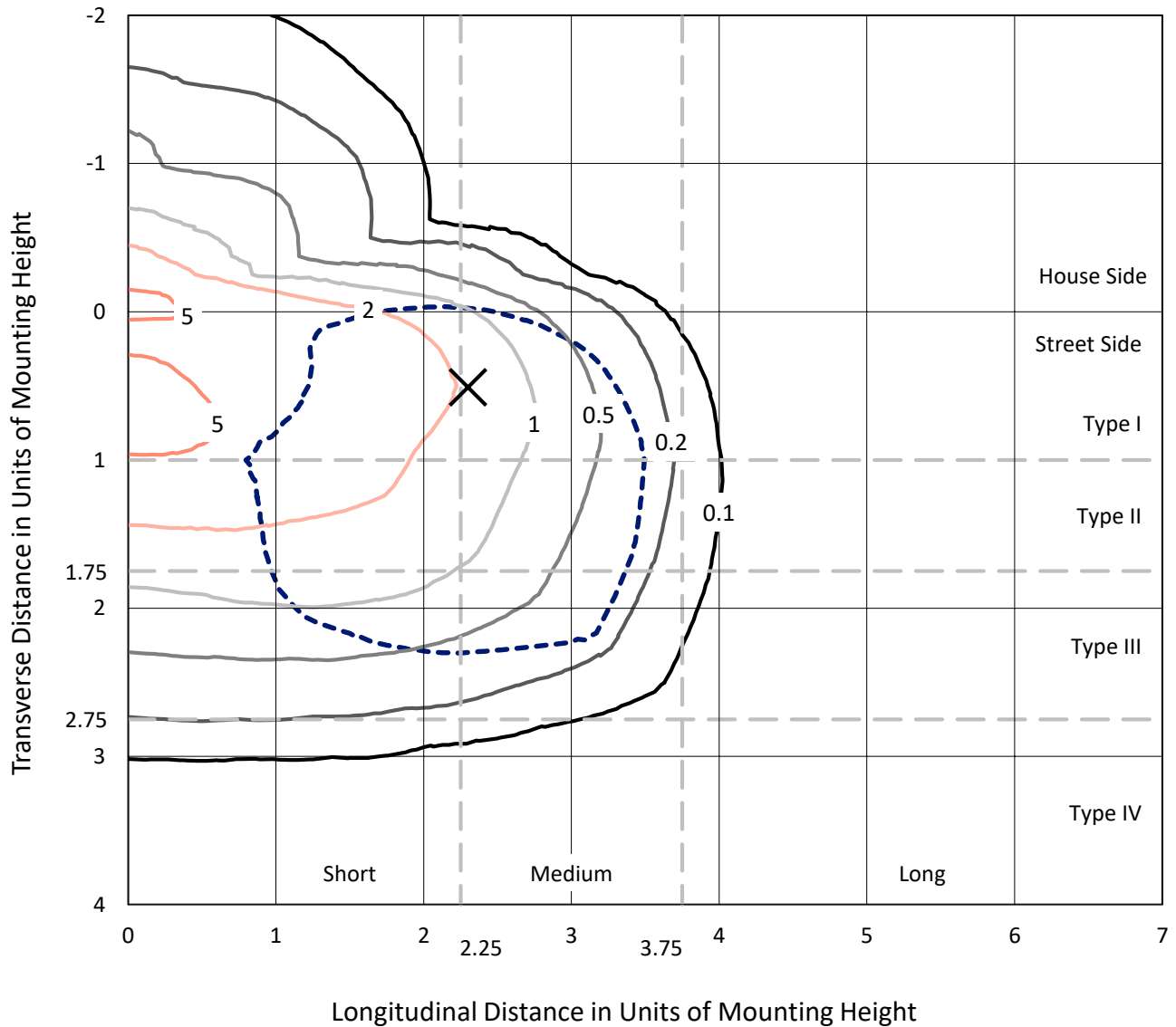
Input Watts (W): 320  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

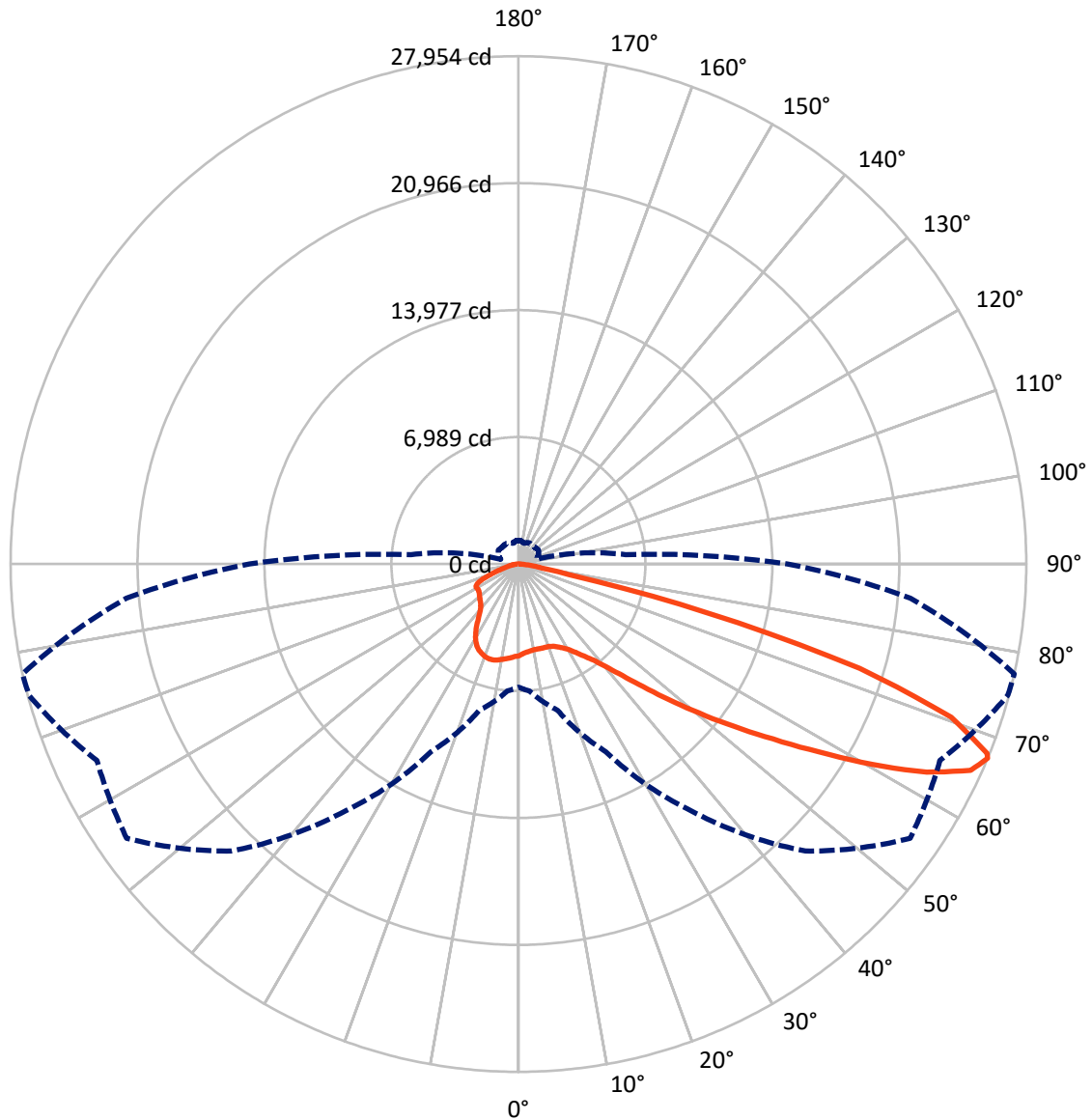
× Max cd  
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 6.7 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	5898.1	0.0	5898.1
	% Fixture	17.2	0.0	17.2
<b>Street Side</b>	Lumens	28423.0	0.0	28423.0
	% Fixture	82.8	0.0	82.8
<b>Total</b>	Lumens	34321.0	0.0	34321.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	449.9	1.3
10°-20°	1245.9	3.6
20°-30°	2116.9	6.2
30°-40°	3386.5	9.9
40°-50°	5213.5	15.2
50°-60°	7233.2	21.1
60°-70°	9648.6	28.1
70°-80°	4591.8	13.4
80°-90°	434.8	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°	34321.0	100.0
0°-180°	34321.0	100.0

**Coefficient of Utilization**



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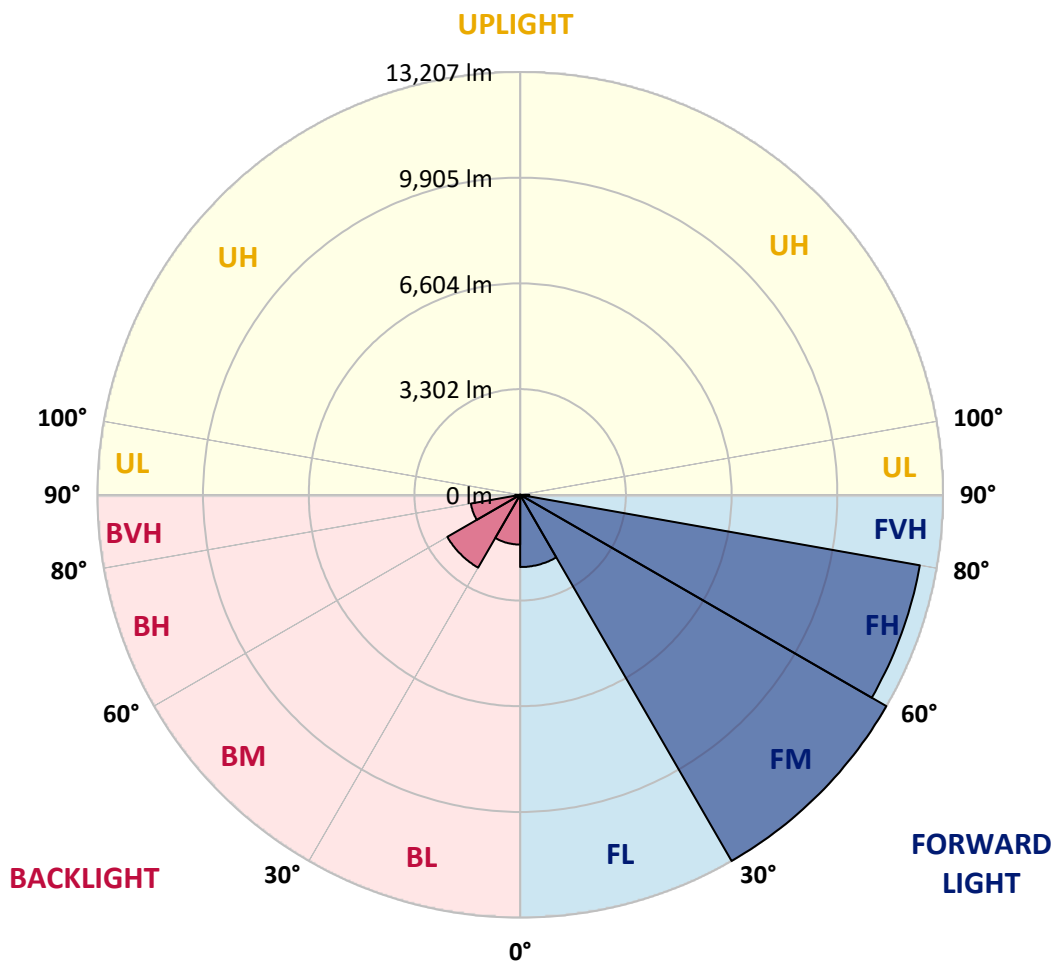
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2256.9	6.6			
FM	(30°-60°)	13207.1	38.5			
FH	(60°-80°)	12676.6	36.9			G5
FVH	(80°-90°)	282.4	0.8			G3/500
BL	(0°-30°)	1555.7	4.5	B3/2500		
BM	(30°-60°)	2626.1	7.7	B3/5000		
BH	(60°-80°)	1563.8	4.6	B3/2500		G3/2500
BVH	(80°-90°)	152.4	0.4			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G5**

Type III Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	77.5°	85°
0°	5051.1	5051.1	5051.1	5051.1	5051.1	5051.1	5051.1	5051.1	5051.1	5051.1	5051.1
2.5°	4529.3	4550.5	4552.6	4614.1	4641.7	4711.7	4788.1	4855.9	4915.4	4936.6	4974.8
5°	4075.3	4075.3	4081.7	4122.0	4200.4	4312.9	4472.0	4645.9	4828.4	4872.9	4985.4
7.5°	3837.7	3841.9	3846.2	3886.5	3948.0	4047.7	4206.8	4444.4	4747.8	4822.1	5019.3
10°	3858.9	3852.5	3831.4	3822.9	3848.3	3912.0	4049.9	4293.8	4679.9	4794.5	5080.9
12.5°	4192.0	4179.3	4109.2	4007.4	3914.0	3890.7	3986.2	4217.4	4648.1	4794.5	5184.8
15°	4762.7	4771.1	4633.3	4421.1	4177.1	4011.6	3998.9	4189.8	4637.4	4807.2	5305.7
17.5°	5505.1	5509.4	5318.4	5010.8	4605.6	4264.1	4085.9	4189.8	4637.4	4819.9	5422.4
20°	6294.3	6264.7	6048.2	5662.1	5136.0	4614.1	4245.0	4215.3	4650.2	4839.0	5532.7
22.5°	6971.1	6943.5	6716.5	6311.3	5708.8	5027.8	4459.2	4300.2	4720.2	4917.5	5687.6
25°	7563.0	7579.9	7359.3	6903.2	6279.5	5494.6	4779.6	4495.4	4866.6	5059.6	5878.5
27.5°	8282.1	8250.3	7995.7	7560.8	6867.1	5978.2	5180.5	4741.4	5040.6	5231.5	6111.8
30°	9113.7	9098.8	8755.2	8307.6	7514.2	6519.2	5577.2	5006.6	5267.6	5467.0	6404.6
32.5°	10123.5	10121.4	9752.3	9202.8	8241.8	7130.2	6046.2	5369.4	5598.5	5800.0	6792.9
35°	11267.0	11264.8	10883.0	10157.5	9079.8	7807.0	6597.7	5810.7	6007.9	6220.1	7255.4
37.5°	12060.4	12047.7	11848.2	11143.9	10006.8	8593.9	7287.2	6404.6	6472.5	6710.1	7813.3
40°	12213.1	12289.5	12461.4	12045.6	11018.8	9468.0	7978.7	7043.2	7106.8	7412.3	8515.5
42.5°	12047.7	12147.3	12718.0	12834.8	12030.7	10526.6	8844.3	7927.9	8008.5	8388.2	9340.7
45°	11903.4	11990.4	12705.4	13271.8	13029.9	11680.7	9924.1	9007.6	9160.4	9631.4	10282.6
47.5°	11657.3	11738.0	12454.9	13350.2	13600.5	12792.3	11224.5	10305.9	10569.0	11139.7	11356.1
50°	11644.6	11680.7	12113.5	13087.2	13797.9	13636.7	12665.1	11824.9	12227.9	12885.6	12544.0
52.5°	11322.1	11574.6	11967.1	12667.1	13802.1	14128.8	14084.3	13490.3	14111.8	14839.4	13846.7
55°	9349.2	9639.9	11479.1	12461.4	13776.7	14551.0	15380.5	15261.6	16233.3	16999.1	15306.2
57.5°	8729.8	8852.8	10070.4	12522.9	13988.8	15248.9	16676.7	17164.6	18660.2	19496.0	17056.4
60°	8560.1	8689.5	9788.3	12552.5	14563.6	16519.6	18435.3	19313.6	21513.6	22400.3	19044.2
62.5°	8371.2	8538.8	9809.6	12580.1	15573.5	18399.3	20768.9	21645.0	24443.2	25234.6	20906.8
65°	7819.6	8042.3	9417.1	12406.1	16678.8	20758.3	23853.5	24076.3	26863.8	27366.6	22031.2
67°	6773.8	7017.7	8339.4	11400.6	16576.9	22347.3	26320.7	25597.3	27892.7	27954.3	21666.3
67.5°	6442.9	6695.3	7974.5	10982.7	16286.3	22555.1	26757.7	25807.3	27884.2	27816.4	21326.9
70°	4338.3	4622.6	5647.3	8063.6	13063.8	20991.7	26651.7	25160.3	26055.6	25277.0	18322.9
72.5°	2153.3	2161.7	2817.3	4416.8	7915.1	15055.9	22232.7	21524.1	21121.1	19650.9	13445.7
75°	1037.4	1056.5	1330.1	1951.7	3337.1	7773.0	15162.0	14523.3	12365.8	10706.9	6729.2
77.5°	791.3	810.4	1033.2	1270.7	1391.6	2535.1	7509.9	6069.5	3583.1	2861.8	1896.6
80°	611.0	647.0	872.0	975.9	920.7	1016.2	2361.2	1858.4	1393.8	1279.2	939.8
82.5°	477.3	498.6	740.4	740.4	636.5	681.0	1099.0	1073.5	865.5	780.7	504.9
85°	337.3	379.7	596.2	551.6	417.9	422.2	657.7	630.0	445.5	358.5	197.3
87.5°	150.6	193.0	424.3	360.7	222.8	171.9	269.4	231.2	176.0	135.7	91.2
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°	5051.1	5051.1	5051.1	5051.1	5051.1	5051.1	5051.1	5051.1	5051.1	5051.1	5051.1
2.5°	5017.2	5051.1	5104.2	5136.0	5178.5	5195.4	5212.3	5242.1	5265.4	5259.1	5248.5
5°	5063.9	5121.2	5187.0	5208.1	5208.1	5187.0	5174.2	5176.3	5170.0	5165.7	5153.0
7.5°	5131.7	5210.3	5256.9	5235.8	5170.0	5087.2	5008.7	4962.0	4917.5	4889.9	4898.4
10°	5227.3	5314.2	5316.4	5223.0	5066.0	4885.7	4730.8	4631.1	4535.7	4493.2	4505.9
12.5°	5365.2	5452.1	5377.9	5176.3	4900.5	4618.4	4334.1	4128.3	3943.8	3899.2	3886.5
15°	5513.6	5581.5	5416.0	5076.6	4662.9	4198.3	3721.0	3413.4	3207.7	3171.6	3158.9
17.5°	5643.0	5681.3	5397.0	4898.4	4287.4	3555.6	2999.7	2791.8	2749.4	2770.6	2770.6
20°	5757.6	5744.9	5314.2	4622.6	3695.5	2842.8	2520.2	2518.2	2575.4	2628.5	2632.7
22.5°	5901.8	5802.2	5182.7	4213.2	2989.1	2371.8	2316.6	2371.8	2435.4	2494.8	2501.2
25°	6073.7	5865.8	5006.6	3629.7	2403.6	2153.3	2176.6	2223.3	2263.6	2310.2	2312.4
27.5°	6245.5	5914.6	4758.4	2944.6	2085.4	2013.3	2038.7	2057.8	2068.4	2098.1	2098.1
30°	6444.9	5952.8	4399.9	2359.0	1939.0	1890.2	1875.4	1866.9	1875.4	1915.7	1917.8
32.5°	6695.3	6020.7	3909.8	2023.8	1871.1	1803.3	1726.8	1684.4	1714.2	1786.3	1799.0
35°	6979.6	6101.3	3322.1	1890.2	1847.8	1760.8	1620.8	1555.0	1565.6	1631.4	1642.0
37.5°	7336.0	6205.2	2743.0	1858.4	1871.1	1756.5	1572.0	1478.7	1431.9	1434.1	1431.9
40°	7792.0	6309.2	2284.8	1866.9	1922.0	1767.1	1548.6	1402.3	1304.7	1309.0	1317.5
42.5°	8269.3	6377.1	1994.1	1892.4	1983.5	1782.0	1540.2	1328.0	1243.2	1315.3	1381.1
45°	8827.3	6357.9	1843.6	1915.7	2030.3	1788.4	1508.3	1319.5	1249.5	1465.9	1588.9
47.5°	9468.0	6275.2	1758.7	1926.3	2042.9	1786.3	1485.0	1347.1	1302.5	1678.0	1818.1
50°	10163.8	6145.8	1690.8	1909.3	2036.6	1777.8	1510.5	1381.1	1323.8	1724.7	1832.9
52.5°	10925.4	6027.0	1620.8	1871.1	2004.8	1752.3	1542.3	1366.3	1264.4	1588.9	1671.7
55°	11827.1	5999.4	1542.3	1805.3	1951.7	1724.7	1525.3	1319.5	1198.6	1408.6	1459.5
57.5°	12858.1	6171.3	1440.4	1724.7	1879.6	1669.6	1485.0	1294.0	1175.3	1281.3	1309.0
60°	14166.9	6551.0	1332.3	1639.9	1790.5	1586.8	1448.9	1300.5	1181.6	1262.2	1268.7
62.5°	15189.5	6892.5	1234.7	1536.0	1671.7	1487.2	1410.8	1306.8	1200.7	1287.7	1277.2
65°	15560.8	6725.0	1113.8	1381.1	1504.1	1376.8	1357.8	1311.0	1200.7	1302.5	1279.2
67°	14799.1	5925.1	999.2	1226.2	1345.0	1279.2	1306.8	1294.0	1179.6	1300.5	1260.2
67.5°	14436.4	5643.0	969.5	1200.7	1302.5	1249.5	1294.0	1285.6	1173.1	1296.2	1249.5
70°	11905.5	4047.7	818.9	1007.7	1090.5	1101.0	1215.6	1230.4	1122.3	1217.7	1132.8
72.5°	8471.0	2533.0	706.4	780.7	880.4	941.9	1109.5	1156.1	1054.4	1058.5	988.6
75°	4192.0	1359.8	630.0	602.5	685.3	784.9	967.4	1054.4	954.6	882.5	859.2
77.5°	1415.0	770.1	532.4	485.8	532.4	630.0	801.9	920.7	842.2	746.8	731.9
80°	731.9	560.1	415.8	390.4	420.0	487.9	628.0	765.9	719.1	723.4	596.2
82.5°	456.1	341.6	299.1	297.0	318.2	373.4	462.5	621.5	617.4	528.3	384.0
85°	212.2	197.3	190.9	197.3	203.7	212.2	301.3	443.3	468.8	284.3	252.5
87.5°	89.1	87.0	76.4	82.8	91.2	89.1	120.9	188.8	263.1	178.2	163.4
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)