

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: P196823

Luminaire Tested: **NAV-AF-05-D-UNV-T3R-7030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196823
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-7030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 3000K, 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: 32448.9 lumens
Efficiency: N/A
Efficacy: 101.4 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 - G4

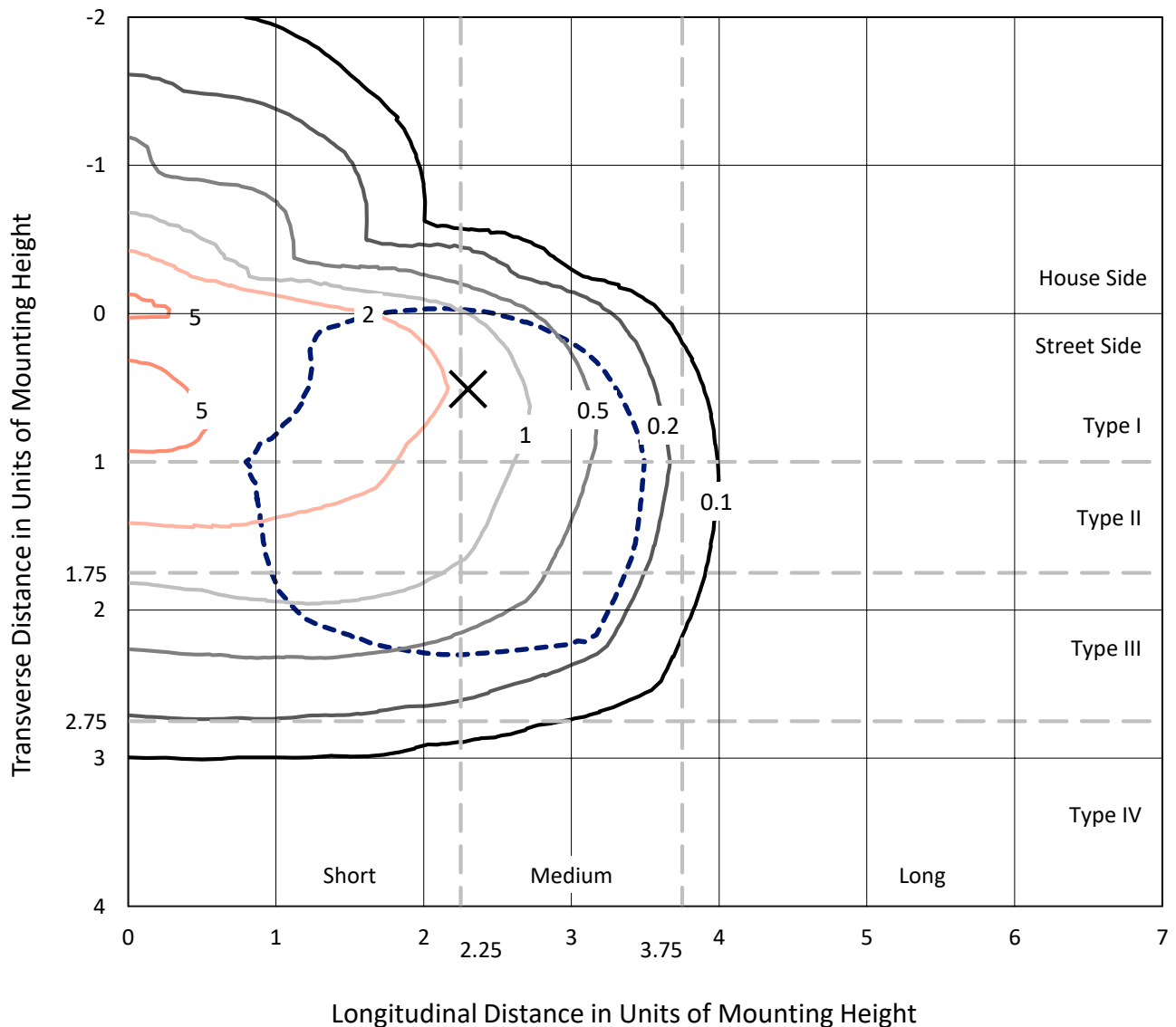
Input Watts (W): 320
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

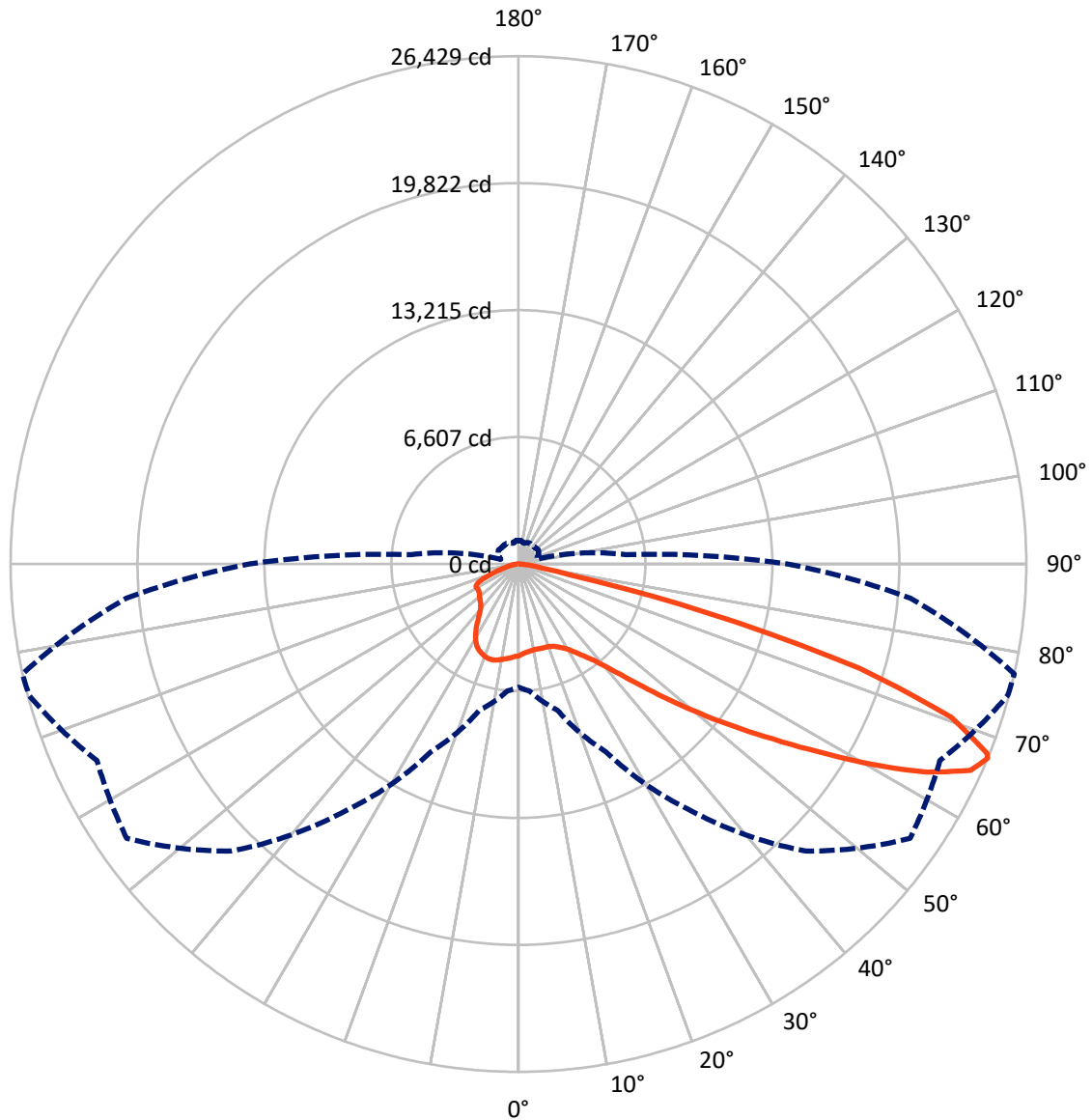
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 6.4 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
House Side	Lumens	5576.3	0.0	5576.3
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	26872.6	0.0	26872.6
	% Fixture	82.8	0.0	82.8
Total	Lumens	32448.9	0.0	32448.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	425.3	1.3
10°-20°	1177.9	3.6
20°-30°	2001.4	6.2
30°-40°	3201.8	9.9
40°-50°	4929.1	15.2
50°-60°	6838.7	21.1
60°-70°	9122.3	28.1
70°-80°	4341.3	13.4
80°-90°	411.1	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°	32448.9	100.0
0°-180°	32448.9	100.0



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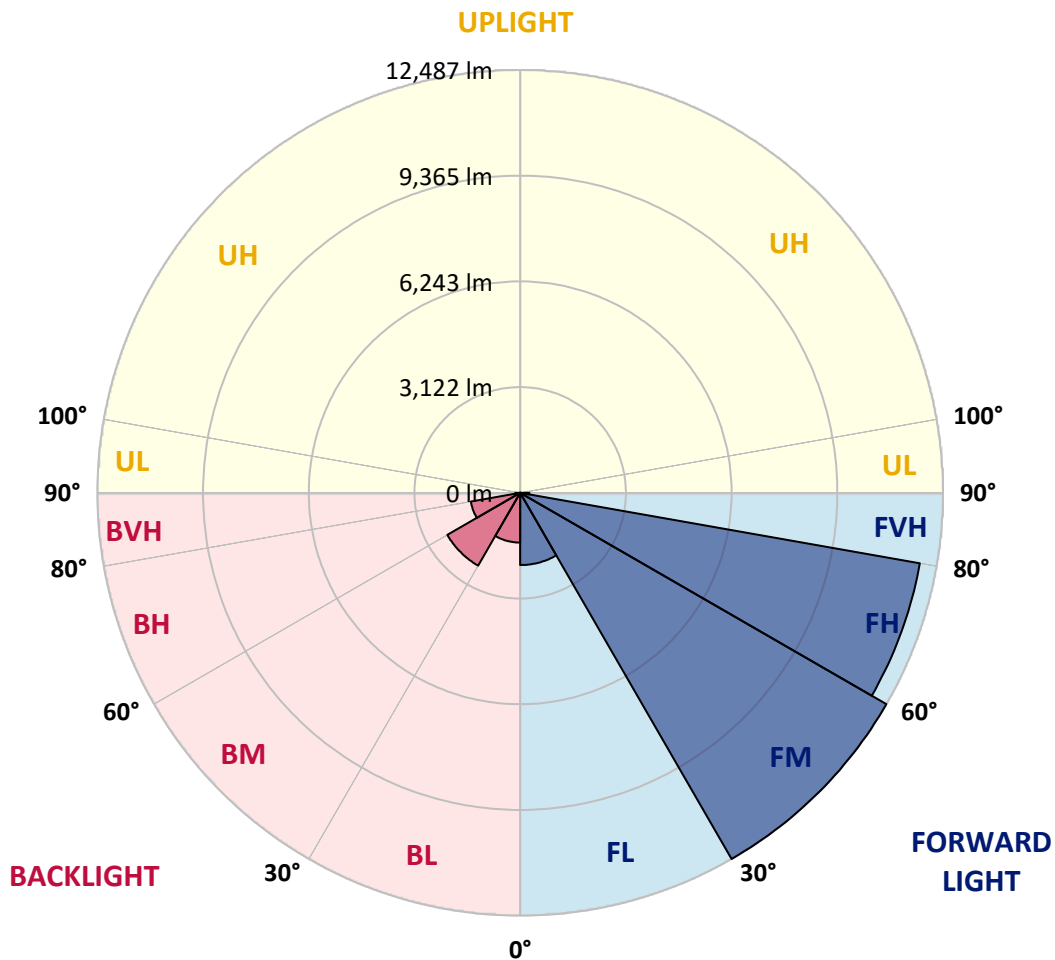
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2133.8	6.6			
FM	(30°-60°)	12486.7	38.5			
FH	(60°-80°)	11985.1	36.9			G4/12000
FVH	(80°-90°)	267.0	0.8			G3/500
BL	(0°-30°)	1470.8	4.5	B3/2500		
BM	(30°-60°)	2482.9	7.7	B2/2500		
BH	(60°-80°)	1478.5	4.6	B3/2500		G3/2500
BVH	(80°-90°)	144.1	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-G4

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	77.5°	85°
0°	4775.6	4775.6	4775.6	4775.6	4775.6	4775.6	4775.6	4775.6	4775.6	4775.6	4775.6
2.5°	4282.2	4302.3	4304.3	4362.4	4388.5	4454.7	4526.9	4591.1	4647.3	4667.3	4703.4
5°	3853.0	3853.0	3859.0	3897.2	3971.3	4077.7	4228.2	4392.6	4565.1	4607.1	4713.5
7.5°	3628.4	3632.4	3636.3	3674.5	3732.7	3827.0	3977.4	4202.0	4488.8	4559.1	4745.5
10°	3648.3	3642.3	3622.4	3614.3	3638.4	3698.5	3828.9	4059.6	4424.7	4532.9	4803.7
12.5°	3963.3	3951.3	3885.0	3788.8	3700.6	3678.5	3768.8	3987.4	4394.5	4532.9	4902.0
15°	4502.9	4510.9	4380.5	4179.9	3949.2	3792.8	3780.8	3961.3	4384.5	4544.9	5016.3
17.5°	5204.9	5208.8	5028.3	4737.5	4354.4	4031.5	3863.0	3961.3	4384.5	4556.9	5126.7
20°	5951.1	5923.0	5718.3	5353.2	4855.8	4362.4	4013.4	3985.3	4396.6	4575.0	5230.9
22.5°	6590.8	6564.8	6350.1	5966.9	5397.4	4753.6	4216.0	4065.6	4462.7	4649.3	5377.3
25°	7150.4	7166.5	6957.8	6526.6	5936.9	5194.8	4518.9	4250.0	4601.1	4783.7	5557.9
27.5°	7830.4	7800.2	7559.5	7148.4	6492.5	5652.1	4898.0	4482.8	4765.6	4946.1	5778.5
30°	8616.6	8602.5	8277.6	7854.4	7104.2	6163.6	5273.1	4733.5	4980.2	5168.7	6055.2
32.5°	9571.3	9569.3	9220.3	8700.9	7792.3	6741.2	5716.3	5076.5	5293.1	5483.6	6422.4
35°	10652.3	10650.4	10289.4	9603.5	8584.5	7381.0	6237.8	5493.7	5680.2	5880.8	6859.7
37.5°	11402.6	11390.5	11202.0	10536.1	9461.0	8125.2	6889.7	6055.2	6119.5	6344.1	7387.1
40°	11546.9	11619.1	11781.7	11388.5	10417.8	8951.5	7543.5	6659.1	6719.2	7008.0	8051.0
42.5°	11390.5	11484.8	12024.3	12134.7	11374.4	9952.4	8361.8	7495.4	7571.5	7930.6	8831.2
45°	11254.1	11336.3	12012.3	12547.8	12319.2	11043.5	9382.7	8516.3	8660.8	9106.0	9721.8
47.5°	11021.4	11097.7	11775.6	12622.0	12858.7	12094.6	10612.3	9743.8	9992.6	10532.0	10736.7
50°	11009.4	11043.5	11452.7	12373.3	13045.2	12892.8	11974.2	11180.0	11560.9	12182.7	11859.9
52.5°	10704.5	10943.2	11314.3	11976.1	13049.3	13358.1	13316.0	12754.4	13342.0	14030.0	13091.3
55°	8839.2	9114.0	10852.9	11781.7	13025.2	13757.3	14541.6	14429.3	15347.7	16071.8	14471.3
57.5°	8253.6	8370.0	9521.2	11839.8	13225.8	14417.1	15766.9	16228.3	17642.3	18432.6	16126.0
60°	8093.1	8215.4	9254.4	11867.8	13769.3	15618.6	17429.7	18260.1	20340.0	21178.4	18005.4
62.5°	7914.6	8073.0	9274.5	11894.0	14724.0	17395.6	19636.1	20464.4	23110.0	23858.1	19766.4
65°	7393.1	7603.7	8903.4	11729.4	15769.0	19626.0	22552.3	22763.0	25398.5	25873.8	20829.4
67°	6404.2	6634.9	7884.4	10778.8	15672.7	21128.3	24885.0	24201.0	26371.3	26429.4	20484.5
67.5°	6091.4	6330.1	7539.6	10383.7	15397.9	21324.9	25298.2	24399.7	26363.2	26299.0	20163.6
70°	4101.7	4370.5	5339.3	7623.8	12351.2	19846.6	25197.9	23787.9	24634.2	23898.2	17323.4
72.5°	2035.8	2043.8	2663.6	4175.9	7483.3	14234.7	21020.0	20350.1	19969.0	18579.0	12712.4
75°	980.8	998.8	1257.6	1845.3	3155.0	7349.0	14335.0	13731.1	11691.4	10122.9	6362.1
77.5°	748.1	766.2	976.8	1201.5	1315.7	2396.8	7100.2	5738.4	3387.7	2705.7	1793.2
80°	577.7	611.8	824.4	922.5	870.5	960.7	2232.3	1757.0	1317.7	1209.5	888.5
82.5°	451.2	471.4	700.1	700.1	601.7	643.9	1038.9	1014.9	818.4	738.1	477.4
85°	318.9	359.0	563.6	521.5	395.1	399.2	621.8	595.7	421.2	338.9	186.5
87.5°	142.4	182.6	401.1	341.0	210.7	162.5	254.7	218.6	166.5	128.4	86.2
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°	4775.6	4775.6	4775.6	4775.6	4775.6	4775.6	4775.6	4775.6	4775.6	4775.6	4775.6
2.5°	4743.5	4775.6	4825.8	4855.8	4896.0	4912.0	4928.0	4956.1	4978.2	4972.2	4962.1
5°	4787.6	4841.9	4904.0	4924.1	4924.1	4904.0	4892.0	4893.9	4887.9	4883.9	4871.9
7.5°	4851.8	4926.1	4970.2	4950.1	4887.9	4809.7	4735.6	4691.4	4649.3	4623.2	4631.2
10°	4942.2	5024.3	5026.4	4938.1	4789.7	4619.2	4472.7	4378.4	4288.2	4248.1	4260.1
12.5°	5072.5	5154.8	5084.5	4893.9	4633.2	4366.4	4097.7	3903.2	3728.7	3686.5	3674.5
15°	5212.9	5277.0	5120.7	4799.6	4408.6	3969.3	3518.0	3227.2	3032.6	2998.5	2986.5
17.5°	5335.2	5371.3	5102.5	4631.2	4053.5	3361.6	2836.1	2639.4	2599.4	2619.5	2619.5
20°	5443.6	5431.5	5024.3	4370.5	3494.0	2687.7	2382.8	2380.8	2435.0	2485.1	2489.2
22.5°	5579.9	5485.7	4899.9	3983.4	2826.1	2242.4	2190.2	2242.4	2302.5	2358.7	2364.7
25°	5742.3	5545.8	4733.5	3431.9	2272.5	2035.8	2057.9	2102.0	2140.1	2184.2	2186.3
27.5°	5904.8	5592.0	4498.9	2783.9	1971.6	1903.4	1927.6	1945.6	1955.6	1983.7	1983.7
30°	6093.4	5628.1	4159.8	2230.4	1833.3	1787.2	1773.1	1765.1	1773.1	1811.2	1813.1
32.5°	6330.1	5692.2	3696.6	1913.4	1769.0	1704.9	1632.7	1592.6	1620.7	1688.8	1700.8
35°	6598.8	5768.5	3140.9	1787.2	1746.9	1664.8	1532.4	1470.2	1480.3	1542.4	1552.5
37.5°	6935.8	5866.7	2593.4	1757.0	1769.0	1660.7	1486.3	1398.0	1353.8	1355.9	1353.8
40°	7367.1	5965.0	2160.2	1765.1	1817.2	1670.8	1464.2	1325.8	1233.5	1237.6	1245.5
42.5°	7818.3	6029.3	1885.4	1789.1	1875.3	1684.8	1456.2	1255.6	1175.3	1243.6	1305.7
45°	8345.8	6011.1	1743.0	1811.2	1919.4	1690.8	1426.1	1247.5	1181.4	1386.0	1502.4
47.5°	8951.5	5932.9	1662.7	1821.3	1931.4	1688.8	1404.0	1273.6	1231.5	1586.6	1718.8
50°	9609.5	5810.6	1598.6	1805.2	1925.4	1680.9	1428.1	1305.7	1251.6	1630.7	1733.0
52.5°	10329.5	5698.3	1532.4	1769.0	1895.4	1656.7	1458.2	1291.7	1195.4	1502.4	1580.6
55°	11181.9	5672.2	1458.2	1706.8	1845.3	1630.7	1442.1	1247.5	1133.2	1331.8	1380.0
57.5°	12156.7	5834.7	1361.9	1630.7	1777.1	1578.5	1404.0	1223.4	1111.1	1211.4	1237.6
60°	13394.2	6193.7	1259.5	1550.4	1692.9	1500.2	1369.9	1229.5	1117.1	1193.4	1199.4
62.5°	14360.9	6516.6	1167.3	1452.2	1580.6	1406.0	1333.8	1235.5	1135.2	1217.4	1207.5
65°	14712.0	6358.2	1053.0	1305.7	1422.0	1301.8	1283.7	1239.5	1135.2	1231.5	1209.5
67°	13992.0	5601.9	944.6	1159.4	1271.7	1209.5	1235.5	1223.4	1115.2	1229.5	1191.4
67.5°	13649.0	5335.2	916.5	1135.2	1231.5	1181.4	1223.4	1215.5	1109.2	1225.5	1181.4
70°	11256.1	3827.0	774.2	952.7	1031.0	1041.0	1149.3	1163.3	1061.0	1151.3	1071.1
72.5°	8008.8	2394.9	667.9	738.1	832.3	890.6	1049.0	1093.1	996.9	1000.9	934.7
75°	3963.3	1285.7	595.7	569.7	647.8	742.1	914.6	996.9	902.6	834.4	812.4
77.5°	1337.8	728.1	503.4	459.3	503.4	595.7	758.1	870.5	796.3	706.1	691.9
80°	691.9	529.5	393.2	369.1	397.1	461.3	593.8	724.1	679.9	684.0	563.6
82.5°	431.2	323.0	282.8	280.8	300.9	353.0	437.2	587.7	583.7	499.5	363.1
85°	200.6	186.5	180.5	186.5	192.6	200.6	284.8	419.2	443.3	268.8	238.7
87.5°	84.2	82.3	72.2	78.2	86.2	84.2	114.2	178.5	248.7	168.5	154.5
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)