

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: P196337

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196337
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
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 4000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 31287 lumens
Efficiency: N/A
Efficacy: 112.1 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

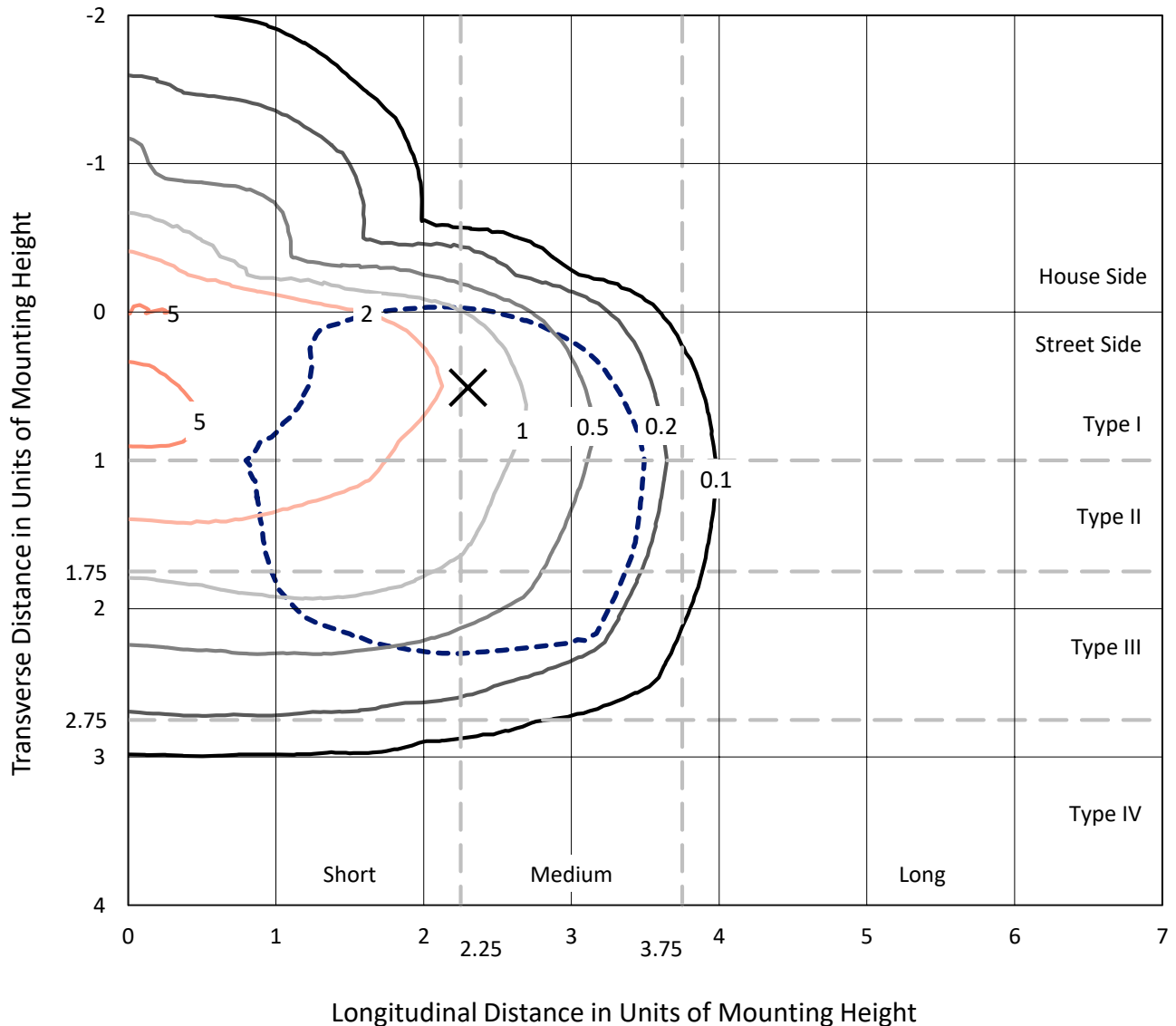
Input Watts (W): 279
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

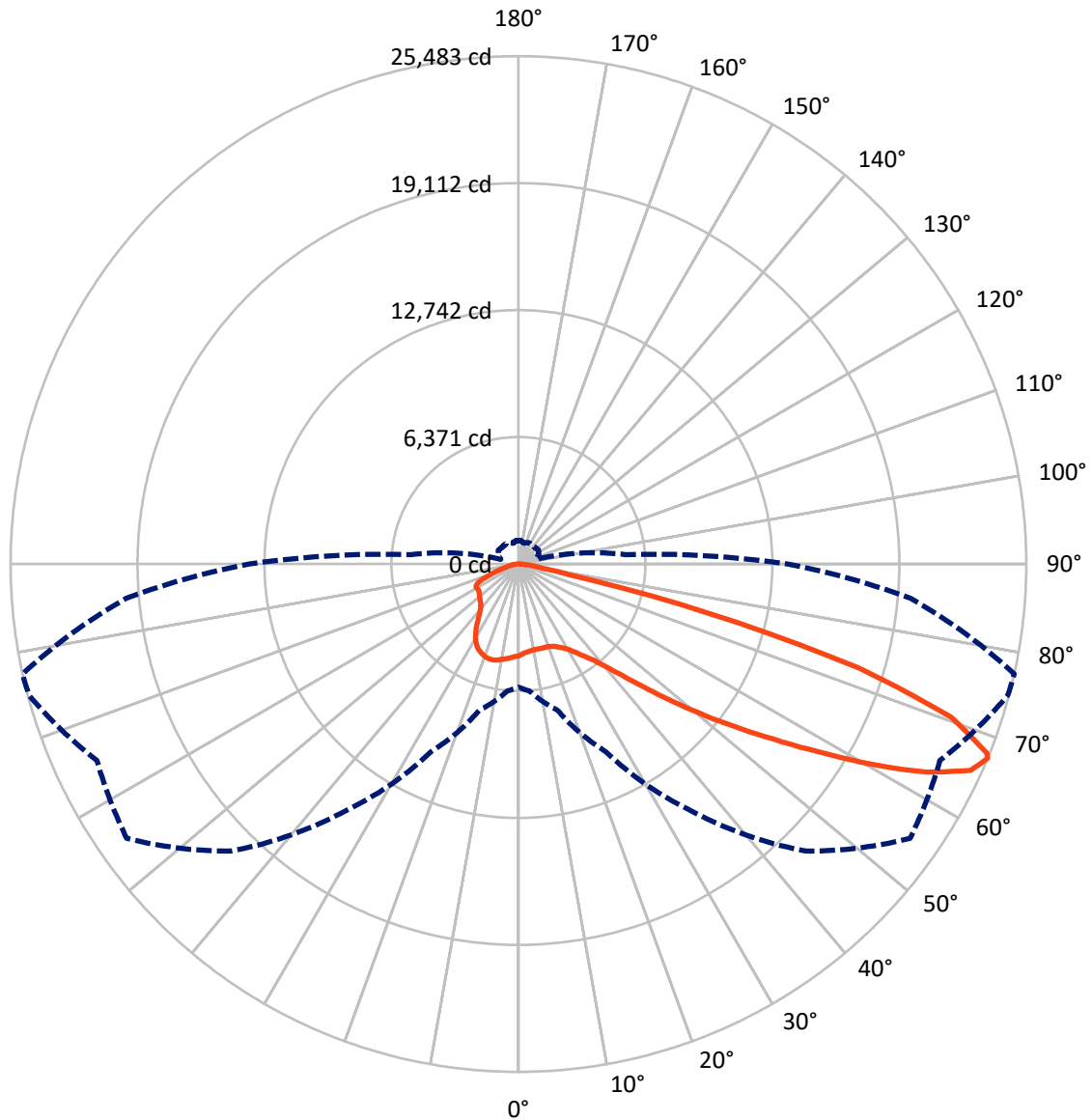
✕ Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 6.2 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	5376.7	0.0	5376.7
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	25910.3	0.0	25910.3
	% Fixture	82.8	0.0	82.8
Total	Lumens	31287.0	0.0	31287.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	410.1	1.3
10°-20°	1135.7	3.6
20°-30°	1929.7	6.2
30°-40°	3087.1	9.9
40°-50°	4752.6	15.2
50°-60°	6593.8	21.1
60°-70°	8795.7	28.1
70°-80°	4185.9	13.4
80°-90°	396.3	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°	31287.0	100.0
0°-180°	31287.0	100.0



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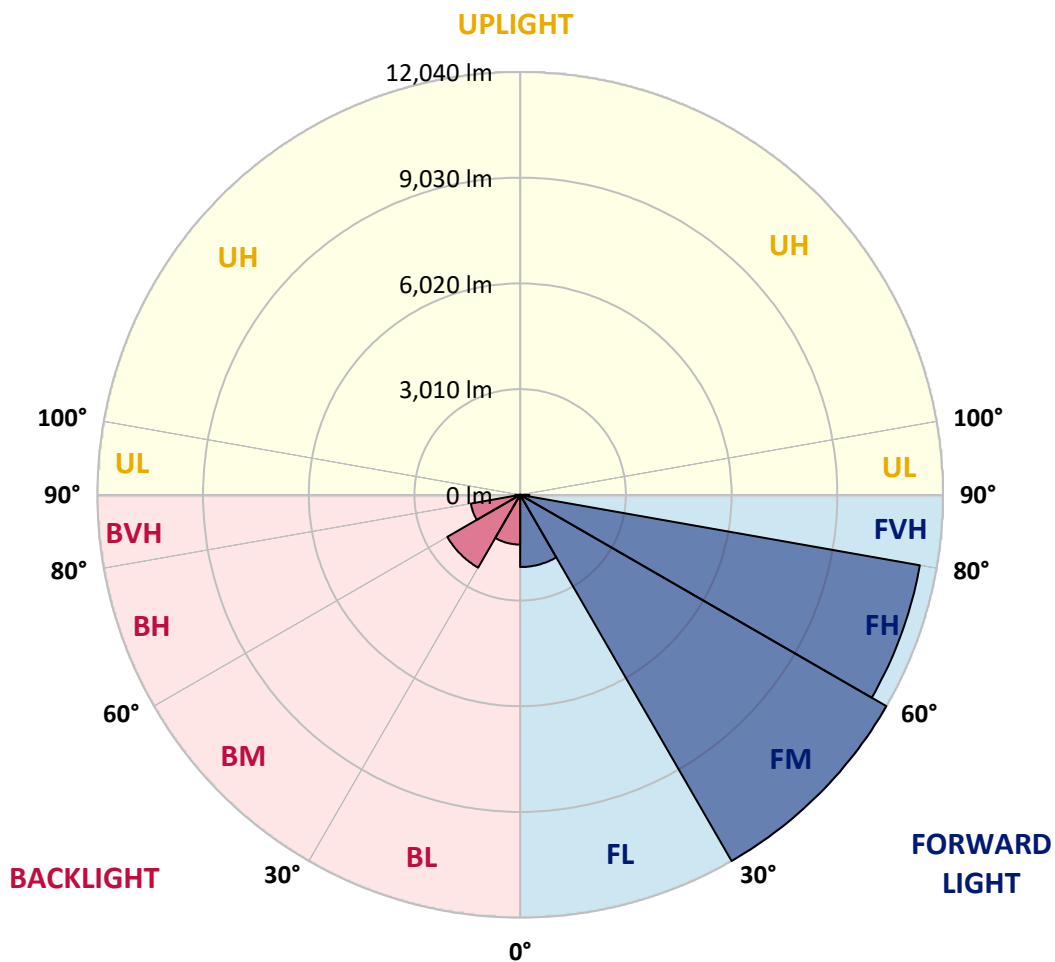
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2057.4	6.6			
FM (30°-60°)	12039.5	38.5			
FH (60°-80°)	11555.9	36.9			G4/12000
FVH (80°-90°)	257.4	0.8			G3/500
BL (0°-30°)	1418.1	4.5	B3/2500		
BM (30°-60°)	2394.0	7.7	B2/2500		
BH (60°-80°)	1425.6	4.6	B3/2500		G3/2500
BVH (80°-90°)	138.9	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°	4604.6	4604.6	4604.6	4604.6	4604.6	4604.6	4604.6	4604.6	4604.6	4604.6	4604.6
2.5°	4128.8	4148.2	4150.1	4206.3	4231.3	4295.2	4364.8	4426.7	4480.8	4500.2	4534.9
5°	3715.1	3715.1	3720.8	3757.6	3829.1	3931.6	4076.7	4235.2	4401.6	4442.2	4544.7
7.5°	3498.4	3502.3	3506.2	3542.9	3598.9	3689.9	3834.9	4051.5	4328.1	4395.7	4575.7
10°	3517.7	3512.0	3492.7	3484.9	3508.1	3566.1	3691.8	3914.2	4266.2	4370.7	4631.7
12.5°	3821.4	3809.8	3745.9	3653.2	3568.1	3546.8	3633.8	3844.6	4237.2	4370.7	4726.4
15°	4341.6	4349.4	4223.7	4030.2	3807.8	3657.0	3645.4	3819.5	4227.5	4382.2	4836.7
17.5°	5018.5	5022.4	4848.3	4567.9	4198.5	3887.1	3724.7	3819.5	4227.5	4393.8	4943.0
20°	5737.8	5710.8	5513.5	5161.6	4681.9	4206.3	3869.7	3842.6	4239.1	4411.3	5043.7
22.5°	6354.8	6329.6	6122.8	5753.4	5204.2	4583.3	4065.1	3920.0	4302.9	4482.8	5184.8
25°	6894.4	6909.8	6708.7	6292.9	5724.3	5008.8	4357.1	4097.9	4436.3	4612.4	5358.8
27.5°	7550.0	7520.9	7288.8	6892.4	6260.0	5449.8	4722.6	4322.3	4595.0	4769.0	5571.6
30°	8308.0	8294.5	7981.2	7573.1	6849.9	5942.8	5084.3	4564.0	4801.8	4983.6	5838.5
32.5°	9228.6	9226.6	8890.2	8389.2	7513.2	6499.8	5511.7	4894.7	5103.6	5287.3	6192.3
35°	10270.9	10269.0	9920.9	9259.5	8277.1	7116.8	6014.4	5296.9	5476.8	5670.2	6614.0
37.5°	10994.3	10982.6	10800.8	10158.8	9122.2	7834.3	6642.9	5838.5	5900.4	6116.9	7122.6
40°	11133.5	11203.1	11359.8	10980.7	10044.7	8631.0	7273.4	6420.6	6478.6	6757.0	7762.7
42.5°	10982.6	11073.5	11593.7	11700.1	10967.2	9596.0	8062.4	7226.9	7300.5	7646.7	8514.9
45°	10851.2	10930.4	11582.2	12098.4	11878.0	10648.1	9046.8	8211.3	8350.6	8779.9	9373.6
47.5°	10626.8	10700.3	11353.9	12170.0	12398.3	11661.4	10232.3	9394.9	9634.7	10154.9	10352.2
50°	10615.2	10648.1	11042.5	11930.3	12578.1	12431.1	11545.4	10779.5	11147.0	11746.5	11435.2
52.5°	10321.3	10551.3	10909.2	11547.3	12582.0	12879.8	12839.2	12297.7	12864.3	13527.6	12622.6
55°	8522.7	8787.7	10464.4	11359.8	12558.8	13264.6	14020.8	13912.4	14798.2	15496.4	13953.0
57.5°	7958.0	8070.2	9180.3	11415.8	12752.1	13900.9	15202.4	15647.2	17010.5	17772.5	15548.5
60°	7803.3	7921.2	8923.0	11442.9	13276.3	15059.3	16805.5	17606.2	19611.7	20420.0	17360.6
62.5°	7631.2	7783.9	8942.3	11468.0	14196.7	16772.7	18932.9	19731.6	22282.4	23003.7	19058.6
65°	7128.3	7331.4	8584.6	11309.4	15204.3	18923.3	21744.8	21947.8	24488.9	24947.3	20083.6
67°	6174.9	6397.3	7602.2	10392.8	15111.5	20371.8	23993.9	23334.4	25426.9	25483.0	19750.9
67.5°	5873.3	6103.4	7269.5	10011.8	14846.6	20561.2	24392.3	23525.9	25419.2	25357.3	19441.5
70°	3954.8	4213.9	5148.0	7350.7	11909.0	19135.9	24295.6	22936.1	23752.2	23042.4	16703.0
72.5°	1962.9	1970.6	2568.2	4026.3	7215.4	13724.9	20267.3	19621.3	19253.9	17913.7	12257.1
75°	945.7	963.1	1212.6	1779.2	3042.1	7085.8	13821.6	13239.4	11272.7	9760.4	6134.3
77.5°	721.4	738.8	941.8	1158.4	1268.7	2311.1	6846.0	5532.9	3266.4	2608.8	1728.9
80°	557.0	589.8	794.8	889.6	839.3	926.4	2152.4	1694.1	1270.6	1166.2	856.7
82.5°	435.2	454.5	674.9	674.9	580.2	620.8	1001.8	978.6	789.0	711.7	460.2
85°	307.5	346.2	543.4	502.8	380.9	384.8	599.6	574.4	406.1	326.8	179.8
87.5°	137.3	175.9	386.8	328.8	203.1	156.6	245.6	210.8	160.5	123.8	83.2
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°	4604.6	4604.6	4604.6	4604.6	4604.6	4604.6	4604.6	4604.6	4604.6	4604.6	4604.6
2.5°	4573.7	4604.6	4653.0	4681.9	4720.6	4736.2	4751.6	4778.7	4800.0	4794.2	4784.4
5°	4616.3	4668.4	4728.4	4747.7	4747.7	4728.4	4716.8	4718.7	4712.9	4709.1	4697.5
7.5°	4678.1	4749.7	4792.2	4772.9	4712.9	4637.4	4565.9	4523.4	4482.8	4457.6	4465.4
10°	4765.1	4844.4	4846.3	4761.2	4618.1	4453.7	4312.6	4221.7	4134.7	4096.0	4107.6
12.5°	4890.8	4970.1	4902.4	4718.7	4467.3	4210.1	3950.9	3763.3	3595.2	3554.5	3542.9
15°	5026.2	5088.1	4937.3	4627.8	4250.7	3827.2	3392.1	3111.6	2924.1	2891.2	2879.6
17.5°	5144.2	5179.0	4919.9	4465.4	3908.4	3241.2	2734.6	2545.0	2506.3	2525.7	2525.7
20°	5248.6	5237.0	4844.4	4213.9	3368.9	2591.4	2297.4	2295.5	2347.8	2396.1	2399.9
22.5°	5380.1	5289.2	4724.5	3840.8	2724.8	2162.1	2111.8	2162.1	2220.1	2274.2	2280.1
25°	5536.7	5347.3	4564.0	3308.9	2191.1	1962.9	1984.2	2026.8	2063.5	2106.1	2108.0
27.5°	5693.4	5391.7	4337.7	2684.2	1901.1	1835.3	1858.5	1875.9	1885.5	1912.6	1912.6
30°	5875.2	5426.5	4010.9	2150.4	1767.6	1723.1	1709.6	1701.9	1709.6	1746.3	1748.2
32.5°	6103.4	5488.4	3564.2	1844.9	1705.7	1643.8	1574.2	1535.6	1562.6	1628.3	1640.0
35°	6362.5	5561.9	3028.4	1723.1	1684.4	1605.1	1477.6	1417.5	1427.2	1487.2	1496.9
37.5°	6687.4	5656.6	2500.5	1694.1	1705.7	1601.2	1433.1	1347.9	1305.4	1307.3	1305.4
40°	7103.2	5751.4	2082.8	1701.9	1752.1	1610.9	1411.8	1278.3	1189.4	1193.2	1200.9
42.5°	7538.3	5813.3	1817.9	1725.0	1808.2	1624.4	1404.0	1210.7	1133.2	1199.0	1258.9
45°	8046.9	5795.9	1680.6	1746.3	1850.7	1630.3	1375.1	1202.9	1139.1	1336.3	1448.5
47.5°	8631.0	5720.4	1603.2	1756.0	1862.4	1628.3	1353.8	1228.1	1187.4	1529.7	1657.4
50°	9265.3	5602.5	1541.3	1740.6	1856.6	1620.6	1376.9	1258.9	1206.8	1572.3	1670.9
52.5°	9959.6	5494.2	1477.6	1705.7	1827.5	1597.4	1405.9	1245.4	1152.6	1448.5	1523.9
55°	10781.5	5469.1	1405.9	1645.7	1779.2	1572.3	1390.5	1202.9	1092.6	1284.1	1330.6
57.5°	11721.4	5625.7	1313.2	1572.3	1713.4	1521.9	1353.8	1179.7	1071.3	1168.1	1193.2
60°	12914.5	5971.9	1214.4	1494.9	1632.2	1446.6	1320.8	1185.5	1077.2	1150.7	1156.4
62.5°	13846.8	6283.3	1125.6	1400.1	1523.9	1355.6	1286.1	1191.3	1094.6	1173.8	1164.2
65°	14185.2	6130.4	1015.3	1258.9	1371.2	1255.1	1237.7	1195.1	1094.6	1187.4	1166.2
67°	13490.9	5401.4	910.8	1117.8	1226.1	1166.2	1191.3	1179.7	1075.2	1185.5	1148.8
67.5°	13160.2	5144.2	883.8	1094.6	1187.4	1139.1	1179.7	1172.0	1069.5	1181.6	1139.1
70°	10853.1	3689.9	746.4	918.6	994.0	1003.7	1108.2	1121.7	1023.1	1110.1	1032.7
72.5°	7722.1	2309.1	643.9	711.7	802.6	858.7	1011.4	1053.9	961.2	965.1	901.2
75°	3821.4	1239.6	574.4	549.2	624.6	715.6	881.9	961.2	870.2	804.6	783.3
77.5°	1289.9	702.1	485.4	442.8	485.4	574.4	731.0	839.3	767.7	680.8	667.2
80°	667.2	510.6	379.0	355.9	382.9	444.8	572.4	698.2	655.6	659.5	543.4
82.5°	415.8	311.4	272.7	270.8	290.1	340.3	421.6	566.6	562.7	481.5	350.1
85°	193.4	179.8	174.0	179.8	185.7	193.4	274.7	404.2	427.4	259.1	230.2
87.5°	81.2	79.3	69.7	75.4	83.2	81.2	110.3	172.2	239.8	162.4	148.9
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)