

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: P196338

Luminaire Tested: **NAV-AF-06-D-UNV-T3R**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196338
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-06-D-UNV-T3R
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 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: 37479.9 lumens
Efficiency: N/A
Efficacy: 112.6 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

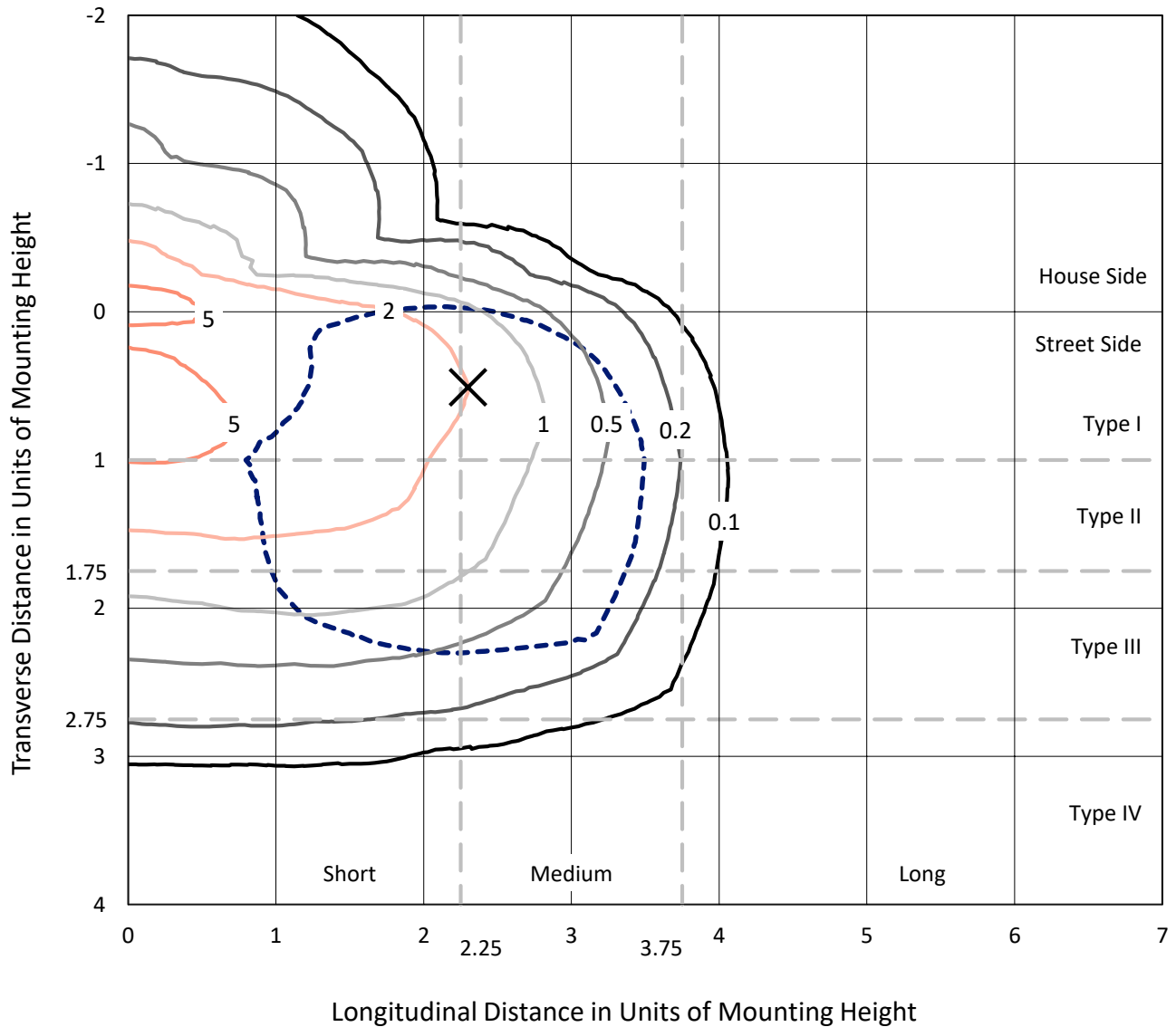
Input Watts (W): 333
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

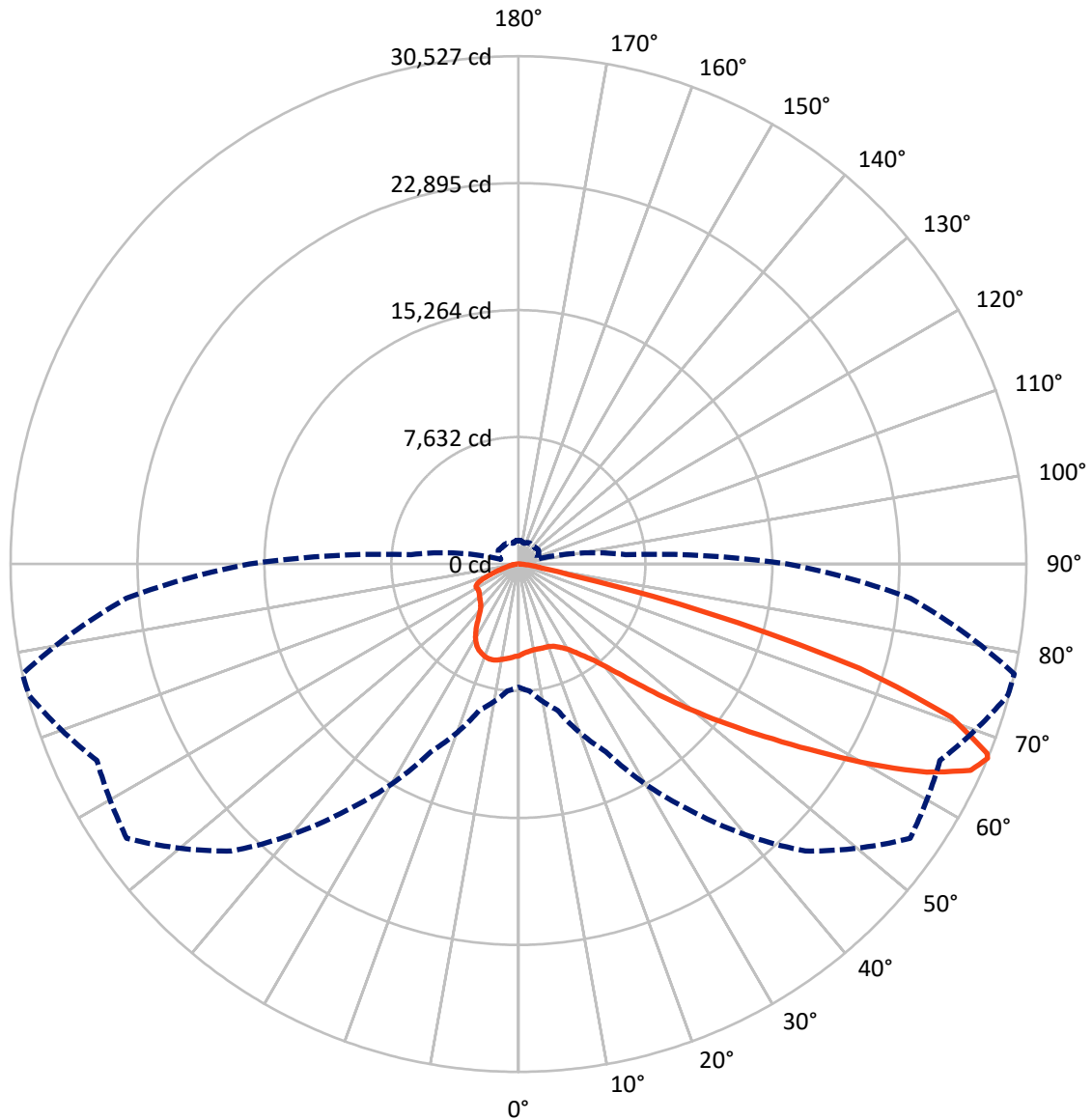
✕ Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 7.4 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	6440.9	0.0	6440.9
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	31039.0	0.0	31039.0
	% Fixture	82.8	0.0	82.8
Total	Lumens	37479.9	0.0	37479.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	491.3	1.3
10°-20°	1360.6	3.6
20°-30°	2311.7	6.2
30°-40°	3698.2	9.9
40°-50°	5693.3	15.2
50°-60°	7899.0	21.1
60°-70°	10536.7	28.1
70°-80°	5014.4	13.4
80°-90°	474.8	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°	37479.9	100.0
0°-180°	37479.9	100.0



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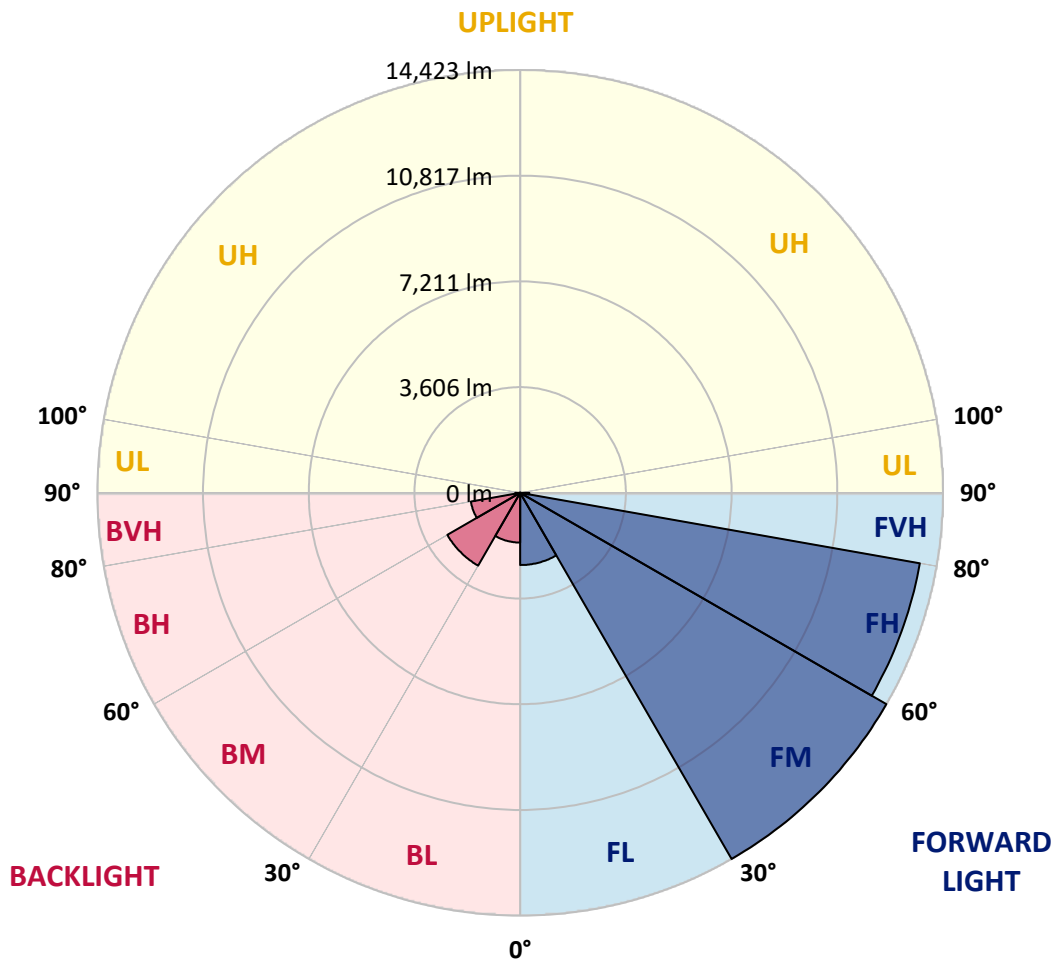
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2464.7	6.6			
FM (30°-60°)	14422.6	38.5			
FH (60°-80°)	13843.3	36.9			G5
FVH (80°-90°)	308.4	0.8			G3/500
BL (0°-30°)	1698.9	4.5	B3/2500		
BM (30°-60°)	2867.9	7.7	B3/5000		
BH (60°-80°)	1707.8	4.6	B3/2500		G3/2500
BVH (80°-90°)	166.4	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°	5516.1	5516.1	5516.1	5516.1	5516.1	5516.1	5516.1	5516.1	5516.1	5516.1	5516.1
2.5°	4946.2	4969.3	4971.6	5038.9	5068.9	5145.3	5228.8	5302.9	5367.8	5391.0	5432.7
5°	4450.3	4450.3	4457.3	4501.4	4587.0	4709.9	4883.6	5073.5	5272.8	5321.5	5444.2
7.5°	4190.9	4195.5	4200.1	4244.2	4311.3	4420.3	4594.0	4853.5	5184.7	5265.8	5481.3
10°	4214.0	4207.1	4184.0	4174.7	4202.5	4271.9	4422.6	4689.0	5110.7	5235.8	5548.5
12.5°	4577.8	4563.9	4487.5	4376.3	4274.3	4248.8	4353.1	4605.6	5075.9	5235.8	5662.0
15°	5201.0	5210.3	5059.6	4828.0	4561.5	4380.9	4367.0	4575.5	5064.3	5249.7	5794.1
17.5°	6011.8	6016.5	5808.0	5472.1	5029.5	4656.6	4462.0	4575.5	5064.3	5263.5	5921.5
20°	6873.6	6841.2	6604.9	6183.2	5608.7	5038.9	4635.7	4603.3	5078.2	5284.4	6042.0
22.5°	7612.7	7582.5	7334.7	6892.1	6234.3	5490.6	4869.7	4696.0	5154.6	5370.1	6211.1
25°	8259.0	8277.5	8036.6	7538.5	6857.5	6000.2	5219.5	4909.0	5314.5	5525.4	6419.5
27.5°	9044.4	9009.6	8731.6	8256.7	7499.2	6528.5	5657.3	5177.8	5504.5	5713.0	6674.4
30°	9952.5	9936.3	9561.0	9072.1	8205.7	7119.2	6090.5	5467.4	5752.4	5970.1	6994.1
32.5°	11055.2	11053.0	10649.8	10049.9	9000.3	7786.4	6602.6	5863.6	6113.8	6333.8	7418.0
35°	12304.0	12301.7	11884.6	11092.4	9915.5	8525.5	7204.9	6345.5	6560.9	6792.6	7923.1
37.5°	13170.4	13156.5	12938.8	12169.6	10927.9	9385.0	7957.8	6994.1	7068.3	7327.7	8532.4
40°	13337.2	13420.6	13608.3	13154.2	12033.0	10339.4	8713.1	7691.5	7760.9	8094.5	9299.2
42.5°	13156.5	13265.4	13888.6	14016.1	13138.0	11495.4	9658.3	8657.5	8745.5	9160.2	10200.5
45°	12998.9	13094.0	13874.7	14493.3	14229.1	12755.7	10837.6	9836.7	10003.5	10517.8	11229.0
47.5°	12730.2	12818.3	13601.4	14579.0	14852.3	13969.7	12257.6	11254.5	11541.7	12164.9	12401.2
50°	12716.3	12755.7	13228.4	14291.7	15067.8	14891.7	13830.7	12913.2	13353.4	14071.6	13698.6
52.5°	12364.2	12639.9	13068.5	13833.0	15072.5	15429.2	15380.6	14731.9	15410.7	16205.3	15121.1
55°	10209.7	10527.1	12535.6	13608.3	15044.6	15890.2	16796.0	16666.3	17727.3	18563.7	16715.0
57.5°	9533.2	9667.6	10997.3	13675.4	15276.3	16652.4	18211.6	18744.3	20377.7	21290.5	18626.2
60°	9347.8	9489.2	10689.2	13707.8	15904.1	18040.1	20132.1	21091.2	23493.6	24462.0	20797.0
62.5°	9141.7	9324.7	10712.4	13738.0	17006.9	20092.7	22680.5	23637.2	26693.0	27557.1	22831.0
65°	8539.4	8782.6	10283.8	13548.1	18213.8	22668.9	26048.9	26292.2	29336.3	29885.4	24058.9
67°	7397.3	7663.6	9106.9	12449.9	18102.6	24404.1	28743.3	27953.3	30459.9	30527.1	23660.4
67.5°	7035.9	7311.5	8708.5	11993.6	17785.3	24631.1	29220.5	28182.6	30450.7	30376.5	23289.7
70°	4737.7	5048.1	6167.1	8805.8	14266.2	22923.7	29104.7	27476.0	28453.7	27603.4	20009.3
72.5°	2351.5	2360.7	3076.5	4823.3	8643.6	16441.6	24279.0	23505.2	23065.1	21459.6	14683.2
75°	1132.8	1153.7	1452.6	2131.3	3644.2	8488.3	16557.5	15860.1	13504.1	11692.3	7348.6
77.5°	864.1	885.0	1128.2	1387.7	1519.8	2768.4	8201.1	6628.1	3912.9	3125.2	2071.2
80°	667.2	706.6	952.2	1065.7	1005.5	1109.7	2578.4	2029.4	1522.0	1396.9	1026.3
82.5°	521.3	544.4	808.5	808.5	695.0	743.7	1200.0	1172.2	945.2	852.5	551.4
85°	368.4	414.7	651.0	602.3	456.3	461.0	718.2	688.0	486.5	391.5	215.4
87.5°	164.5	210.8	463.3	393.8	243.3	187.6	294.2	252.6	192.3	148.2	99.6
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°	5516.1	5516.1	5516.1	5516.1	5516.1	5516.1	5516.1	5516.1	5516.1	5516.1	5516.1
2.5°	5479.0	5516.1	5574.0	5608.7	5655.1	5673.6	5692.1	5724.5	5750.0	5743.1	5731.5
5°	5530.0	5592.5	5664.3	5687.5	5687.5	5664.3	5650.5	5652.7	5645.8	5641.2	5627.3
7.5°	5604.1	5689.9	5740.8	5717.6	5645.8	5555.4	5469.7	5418.8	5370.1	5340.0	5349.2
10°	5708.4	5803.3	5805.7	5703.7	5532.3	5335.3	5166.2	5057.4	4953.1	4906.8	4920.7
12.5°	5859.0	5953.9	5872.9	5652.7	5351.6	5043.5	4733.0	4508.2	4306.7	4258.1	4244.2
15°	6021.1	6095.3	5914.5	5543.9	5092.1	4584.8	4063.5	3727.5	3502.9	3463.5	3449.6
17.5°	6162.5	6204.1	5893.6	5349.2	4682.0	3882.8	3275.8	3048.8	3002.5	3025.6	3025.6
20°	6287.5	6273.7	5803.3	5048.1	4035.6	3104.3	2752.2	2749.9	2812.5	2870.4	2875.0
22.5°	6445.1	6336.2	5659.7	4600.9	3264.2	2590.1	2529.9	2590.1	2659.6	2724.4	2731.4
25°	6632.7	6405.7	5467.4	3963.8	2624.8	2351.5	2376.9	2427.9	2472.0	2522.9	2525.2
27.5°	6820.3	6458.9	5196.4	3215.5	2277.3	2198.5	2226.4	2247.2	2258.8	2291.2	2291.2
30°	7038.1	6500.6	4804.8	2576.2	2117.5	2064.2	2047.9	2038.7	2047.9	2091.9	2094.3
32.5°	7311.5	6574.8	4269.7	2210.1	2043.3	1969.2	1885.8	1839.5	1871.9	1950.7	1964.6
35°	7621.9	6662.8	3628.0	2064.2	2017.9	1922.8	1769.9	1698.1	1709.8	1781.6	1793.1
37.5°	8011.1	6776.3	2995.5	2029.4	2043.3	1918.2	1716.7	1614.7	1563.8	1566.1	1563.8
40°	8509.2	6889.9	2495.1	2038.7	2098.9	1929.8	1691.1	1531.4	1424.8	1429.4	1438.7
42.5°	9030.5	6963.9	2177.7	2066.5	2166.1	1946.1	1681.9	1450.2	1357.6	1436.3	1508.1
45°	9639.8	6943.2	2013.2	2091.9	2217.0	1953.0	1647.2	1441.0	1364.5	1600.8	1735.2
47.5°	10339.4	6852.7	1920.6	2103.6	2231.0	1950.7	1621.7	1471.1	1422.4	1832.5	1985.4
50°	11099.3	6711.5	1846.4	2085.0	2224.0	1941.4	1649.5	1508.1	1445.6	1883.5	2001.6
52.5°	11931.0	6581.8	1769.9	2043.3	2189.3	1913.6	1684.3	1492.0	1380.8	1735.2	1825.6
55°	12915.6	6551.6	1684.3	1971.5	2131.3	1883.5	1665.7	1441.0	1309.0	1538.3	1593.9
57.5°	14041.5	6739.3	1573.0	1883.5	2052.6	1823.2	1621.7	1413.2	1283.5	1399.3	1429.4
60°	15470.9	7154.0	1454.8	1790.8	1955.3	1732.9	1582.3	1420.2	1290.4	1378.4	1385.4
62.5°	16587.6	7527.0	1348.4	1677.3	1825.6	1624.0	1540.6	1427.1	1311.2	1406.3	1394.7
65°	16993.0	7344.0	1216.3	1508.1	1642.6	1503.5	1482.7	1431.7	1311.2	1422.4	1396.9
67°	16161.3	6470.6	1091.2	1339.0	1468.8	1396.9	1427.1	1413.2	1288.1	1420.2	1376.1
67.5°	15765.1	6162.5	1058.8	1311.2	1422.4	1364.5	1413.2	1403.9	1281.1	1415.5	1364.5
70°	13001.3	4420.3	894.3	1100.4	1190.8	1202.4	1327.5	1343.6	1225.5	1329.7	1237.2
72.5°	9250.5	2766.2	771.5	852.5	961.5	1028.6	1211.6	1262.6	1151.4	1156.0	1079.6
75°	4577.8	1485.0	688.0	658.0	748.3	857.1	1056.4	1151.4	1042.5	963.7	938.3
77.5°	1545.3	841.0	581.4	530.5	581.4	688.0	875.7	1005.5	919.7	815.5	799.2
80°	799.2	611.6	454.1	426.3	458.7	532.9	685.8	836.4	785.3	790.0	651.0
82.5°	498.1	373.0	326.6	324.4	347.5	407.7	505.0	678.8	674.1	576.8	419.3
85°	231.7	215.4	208.5	215.4	222.4	231.7	329.0	484.2	512.0	310.5	275.7
87.5°	97.3	95.0	83.4	90.3	99.6	97.3	132.1	206.2	287.2	194.6	178.4
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)