

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: P195863

Luminaire Tested: **NAV-AF-05-D-UNV-T3R-7050-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195863
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-7050-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5000K, 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: 33551 lumens
Efficiency: N/A
Efficacy: 104.8 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

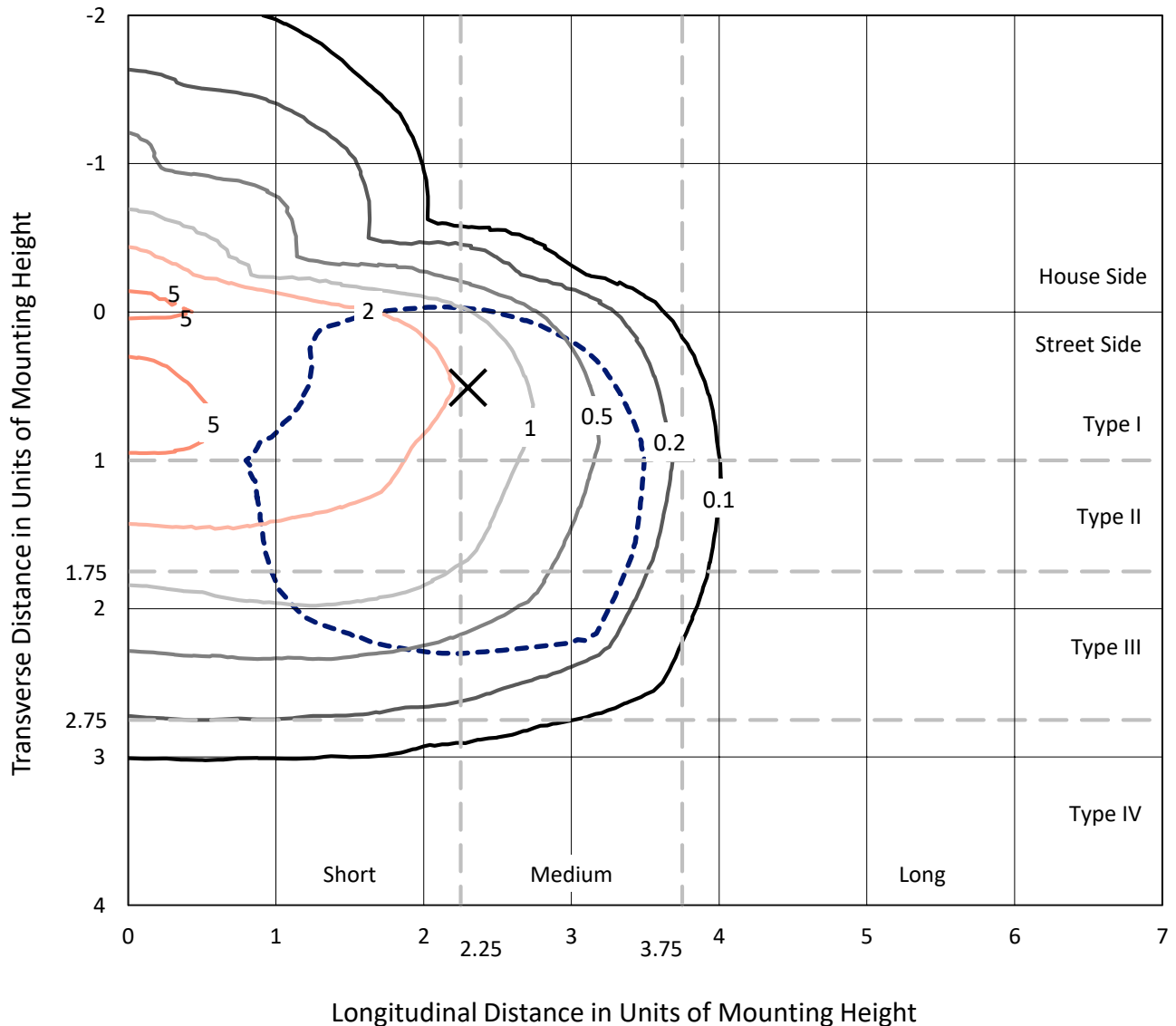
Input Watts (W): 320
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

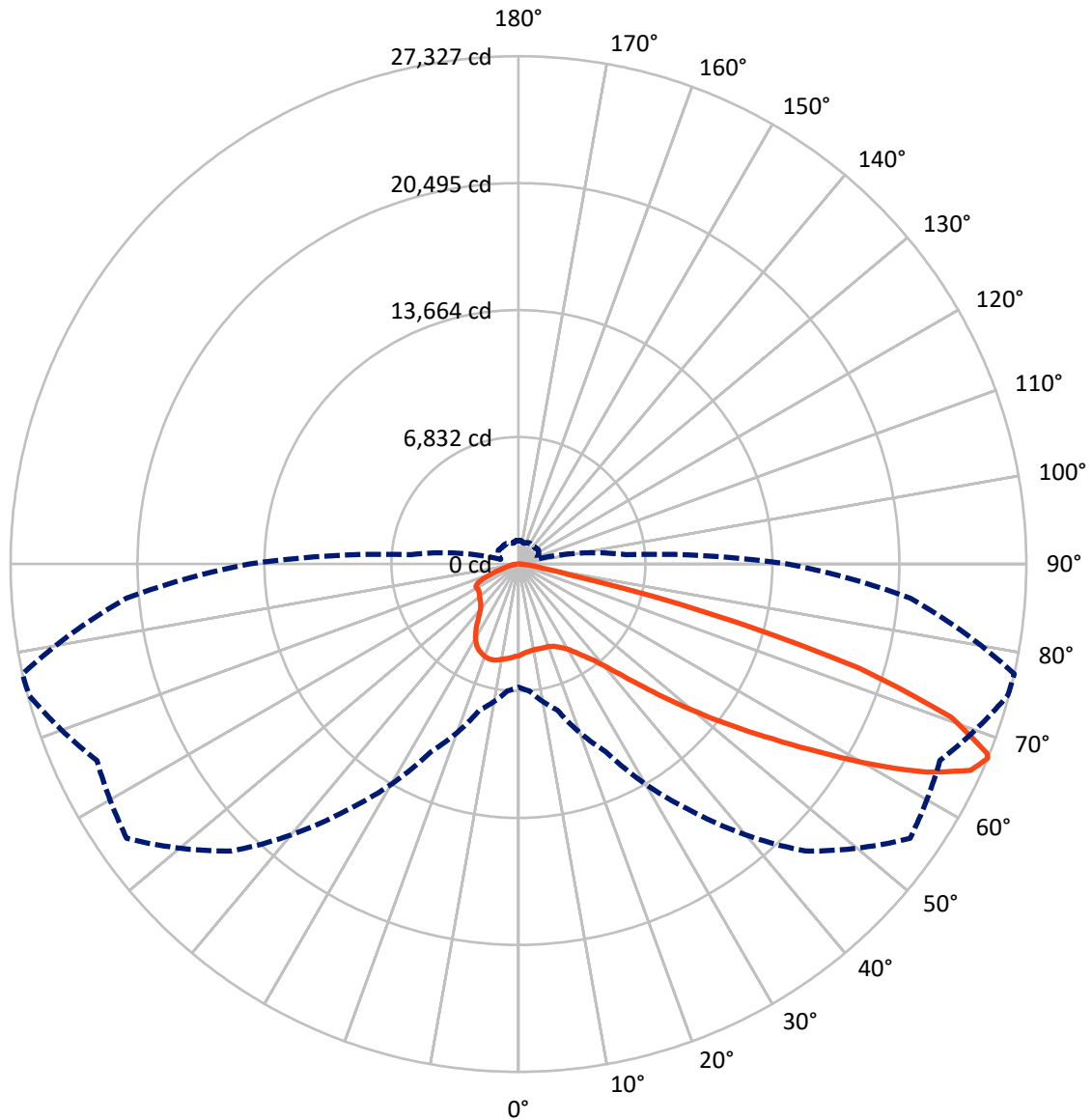
✕ Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 6.6 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	5765.7	0.0	5765.7
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	27785.3	0.0	27785.3
	% Fixture	82.8	0.0	82.8
Total	Lumens	33551.0	0.0	33551.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	439.8	1.3
10°-20°	1217.9	3.6
20°-30°	2069.4	6.2
30°-40°	3310.5	9.9
40°-50°	5096.5	15.2
50°-60°	7070.9	21.1
60°-70°	9432.2	28.1
70°-80°	4488.7	13.4
80°-90°	425.0	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°	33551.0	100.0
0°-180°	33551.0	100.0



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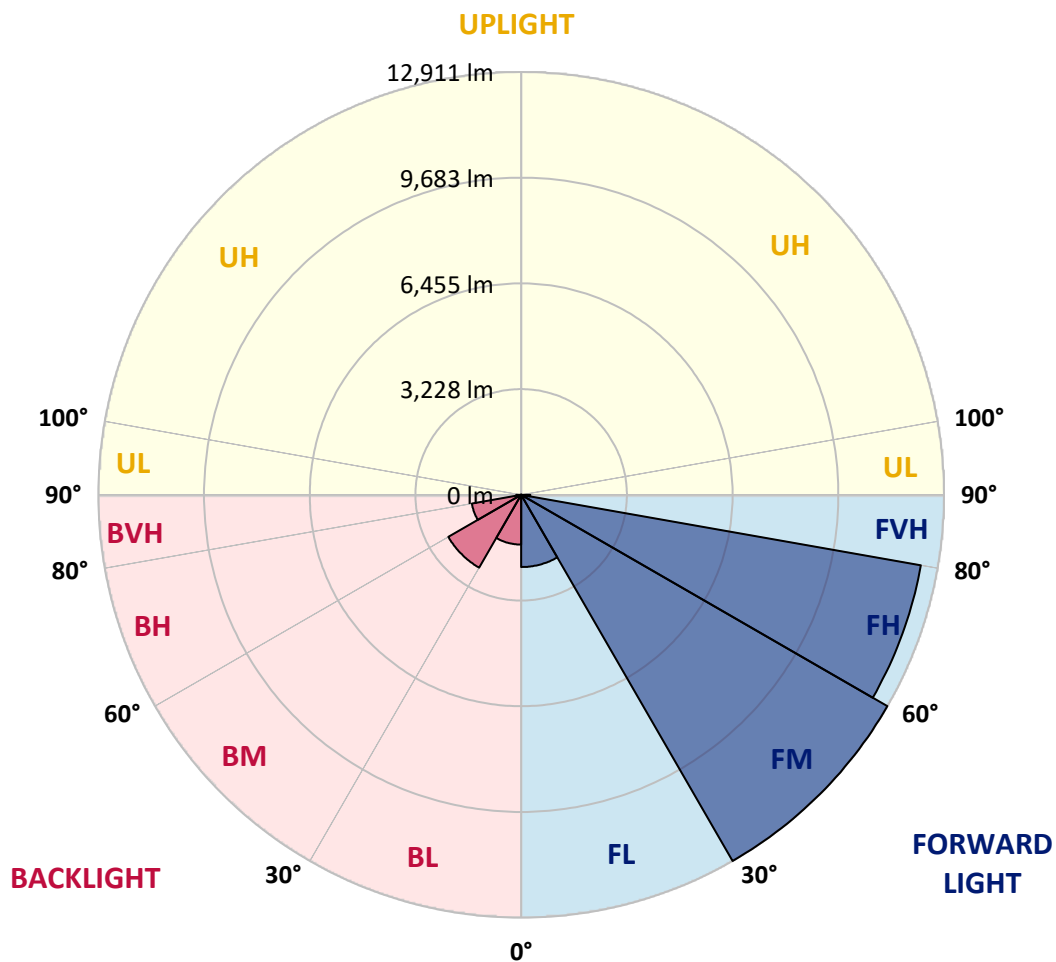
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2206.3	6.6			
FM (30°-60°)	12910.8	38.5			
FH (60°-80°)	12392.2	36.9			G5
FVH (80°-90°)	276.0	0.8			G3/500
BL (0°-30°)	1520.8	4.5	B3/2500		
BM (30°-60°)	2567.2	7.7	B3/5000		
BH (60°-80°)	1528.8	4.6	B3/2500		G3/2500
BVH (80°-90°)	149.0	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°	4937.8	4937.8	4937.8	4937.8	4937.8	4937.8	4937.8	4937.8	4937.8	4937.8	4937.8
2.5°	4427.7	4448.4	4450.5	4510.6	4537.6	4606.0	4680.7	4747.0	4805.1	4825.8	4863.2
5°	3983.9	3983.9	3990.1	4029.5	4106.2	4216.1	4371.7	4541.7	4720.1	4763.6	4873.5
7.5°	3751.6	3755.7	3759.9	3799.3	3859.4	3956.9	4112.4	4344.7	4641.3	4713.9	4906.7
10°	3772.3	3766.1	3745.4	3737.1	3762.0	3824.2	3959.0	4197.5	4574.9	4686.9	4966.9
12.5°	4097.9	4085.5	4017.0	3917.5	3826.2	3803.4	3896.8	4122.8	4543.8	4686.9	5068.5
15°	4655.8	4664.1	4529.3	4321.9	4083.4	3921.6	3909.2	4095.8	4533.4	4699.3	5186.7
17.5°	5381.6	5385.8	5199.1	4898.4	4502.3	4168.4	3994.2	4095.8	4533.4	4711.8	5300.7
20°	6153.1	6124.1	5912.5	5535.1	5020.8	4510.6	4149.8	4120.7	4545.9	4730.4	5408.6
22.5°	6814.7	6787.7	6565.8	6169.7	5580.7	4915.0	4359.2	4203.7	4614.3	4807.2	5560.0
25°	7393.3	7409.8	7194.2	6748.3	6138.6	5371.3	4672.4	4394.5	4757.4	4946.1	5746.6
27.5°	8096.3	8065.2	7816.3	7391.2	6713.0	5844.1	5064.3	4635.0	4927.5	5114.1	5974.7
30°	8909.2	8894.7	8558.8	8121.2	7345.6	6372.9	5452.1	4894.3	5149.4	5344.3	6260.9
32.5°	9896.4	9894.3	9533.5	8996.3	8056.9	6970.2	5910.5	5248.9	5472.9	5669.9	6640.5
35°	11014.2	11012.1	10638.8	9929.6	8876.1	7631.8	6449.7	5680.3	5873.1	6080.5	7092.6
37.5°	11789.8	11777.4	11582.4	10893.9	9782.3	8401.1	7123.7	6260.9	6327.3	6559.6	7638.0
40°	11939.1	12013.8	12181.8	11775.3	10771.6	9255.6	7799.7	6885.2	6947.4	7246.0	8324.4
42.5°	11777.4	11874.8	12432.7	12546.8	11760.8	10290.4	8645.9	7750.0	7828.8	8200.0	9131.1
45°	11636.3	11721.4	12420.3	12974.0	12737.6	11418.6	9701.4	8805.5	8954.9	9415.3	10051.9
47.5°	11395.8	11474.6	12175.5	13050.7	13295.4	12505.3	10972.7	10074.7	10331.9	10889.8	11101.3
50°	11383.3	11418.6	11841.7	12793.6	13488.3	13330.7	12380.9	11559.6	11953.6	12596.5	12262.6
52.5°	11068.1	11314.9	11698.6	12382.9	13492.4	13811.8	13768.3	13187.6	13795.2	14506.5	13536.0
55°	9139.4	9423.6	11221.6	12181.8	13467.6	14224.5	15035.4	14919.2	15869.1	16617.7	14962.8
57.5°	8533.9	8654.2	9844.5	12241.9	13674.9	14906.8	16302.5	16779.5	18241.5	19058.6	16673.7
60°	8368.0	8494.5	9568.7	12270.9	14236.9	16149.0	18021.7	18880.3	21030.9	21897.7	18616.9
62.5°	8183.4	8347.2	9589.5	12297.9	15224.1	17986.5	20302.9	21159.4	23894.8	24668.4	20437.7
65°	7644.2	7861.9	9205.8	12127.8	16304.6	20292.6	23318.3	23536.1	26261.1	26752.6	21536.9
67°	6621.8	6860.3	8152.3	11144.8	16205.0	21845.9	25730.2	25023.0	27266.9	27327.1	21180.2
67.5°	6298.3	6545.1	7795.6	10736.3	15920.9	22049.1	26157.4	25228.3	27258.6	27192.3	20848.4
70°	4241.0	4518.9	5520.6	7882.7	12770.7	20520.7	26053.7	24595.8	25471.0	24709.9	17911.8
72.5°	2105.0	2113.2	2754.1	4317.7	7737.5	14718.1	21733.9	21041.2	20647.2	19210.0	13144.0
75°	1014.1	1032.8	1300.3	1907.9	3262.2	7598.6	14821.8	14197.5	12088.4	10466.7	6578.2
77.5°	773.5	792.2	1010.0	1242.2	1360.4	2478.2	7341.4	5933.3	3502.7	2797.6	1854.0
80°	597.3	632.5	852.4	954.0	900.0	993.4	2308.2	1816.7	1362.5	1250.5	918.7
82.5°	466.6	487.4	723.8	723.8	622.2	665.7	1074.3	1049.4	846.1	763.2	493.6
85°	329.7	371.2	582.8	539.2	408.5	412.7	642.9	615.9	435.5	350.5	192.9
87.5°	147.2	188.7	414.8	352.6	217.8	168.0	263.4	226.0	172.1	132.7	89.2
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°	4937.8	4937.8	4937.8	4937.8	4937.8	4937.8	4937.8	4937.8	4937.8	4937.8	4937.8
2.5°	4904.6	4937.8	4989.7	5020.8	5062.3	5078.8	5095.4	5124.5	5147.3	5141.1	5130.7
5°	4950.3	5006.3	5070.6	5091.3	5091.3	5070.6	5058.1	5060.2	5054.0	5049.8	5037.4
7.5°	5016.6	5093.4	5139.0	5118.3	5054.0	4973.1	4896.3	4850.7	4807.2	4780.2	4788.5
10°	5110.0	5195.0	5197.1	5105.8	4952.3	4776.1	4624.7	4527.2	4433.9	4392.4	4404.8
12.5°	5244.8	5329.8	5257.2	5060.2	4790.6	4514.8	4236.9	4035.7	3855.3	3811.7	3799.3
15°	5389.9	5456.3	5294.5	4962.7	4558.3	4104.1	3637.5	3336.8	3135.7	3100.4	3088.0
17.5°	5516.4	5553.8	5275.9	4788.5	4191.2	3475.8	2932.4	2729.2	2687.7	2708.4	2708.4
20°	5628.4	5616.0	5195.0	4518.9	3612.6	2779.0	2463.7	2461.7	2517.6	2569.5	2573.6
22.5°	5769.4	5672.0	5066.4	4118.7	2922.0	2318.6	2264.6	2318.6	2380.8	2438.8	2445.1
25°	5937.4	5734.2	4894.3	3548.3	2349.7	2105.0	2127.8	2173.4	2212.8	2258.4	2260.5
27.5°	6105.4	5781.9	4651.6	2878.5	2038.6	1968.1	1993.0	2011.6	2022.0	2051.0	2051.0
30°	6300.3	5819.2	4301.2	2306.1	1895.5	1847.8	1833.3	1825.0	1833.3	1872.7	1874.8
32.5°	6545.1	5885.6	3822.1	1978.4	1829.1	1762.8	1688.1	1646.6	1675.7	1746.2	1758.6
35°	6823.0	5964.4	3247.6	1847.8	1806.3	1721.3	1584.4	1520.1	1530.5	1594.8	1605.2
37.5°	7171.4	6066.0	2681.5	1816.7	1829.1	1717.1	1536.7	1445.5	1399.8	1401.9	1399.8
40°	7617.2	6167.6	2233.5	1825.0	1878.9	1727.5	1513.9	1370.8	1275.4	1279.6	1287.9
42.5°	8083.8	6234.0	1949.4	1849.9	1939.0	1742.0	1505.6	1298.2	1215.3	1285.8	1350.1
45°	8629.3	6215.3	1802.2	1872.7	1984.7	1748.3	1474.5	1289.9	1221.5	1433.0	1553.3
47.5°	9255.6	6134.4	1719.2	1883.1	1997.1	1746.2	1451.7	1316.9	1273.3	1640.4	1777.3
50°	9935.8	6007.9	1652.9	1866.5	1990.9	1737.9	1476.6	1350.1	1294.1	1686.0	1791.8
52.5°	10680.3	5891.8	1584.4	1829.1	1959.8	1713.0	1507.7	1335.6	1236.0	1553.3	1634.2
55°	11561.7	5864.8	1507.7	1764.8	1907.9	1686.0	1491.1	1289.9	1171.7	1377.0	1426.8
57.5°	12569.6	6032.8	1408.1	1686.0	1837.4	1632.1	1451.7	1265.0	1148.9	1252.6	1279.6
60°	13849.1	6404.0	1302.4	1603.1	1750.3	1551.2	1416.4	1271.3	1155.1	1233.9	1240.2
62.5°	14848.7	6737.9	1207.0	1501.5	1634.2	1453.8	1379.1	1277.5	1173.8	1258.8	1248.5
65°	15211.7	6574.1	1088.8	1350.1	1470.4	1345.9	1327.3	1281.6	1173.8	1273.3	1250.5
67°	14467.1	5792.2	976.8	1198.7	1314.8	1250.5	1277.5	1265.0	1153.1	1271.3	1231.9
67.5°	14112.5	5516.4	947.7	1173.8	1273.3	1221.5	1265.0	1256.8	1146.8	1267.1	1221.5
70°	11638.4	3956.9	800.5	985.1	1066.0	1076.3	1188.3	1202.8	1097.1	1190.4	1107.4
72.5°	8280.9	2476.2	690.6	763.2	860.6	920.8	1084.6	1130.2	1030.7	1034.8	966.4
75°	4097.9	1329.3	615.9	589.0	669.9	767.3	945.7	1030.7	933.2	862.7	839.9
77.5°	1383.3	752.8	520.5	474.9	520.5	615.9	783.9	900.0	823.3	730.0	715.5
80°	715.5	547.5	406.5	381.6	410.6	477.0	613.9	748.7	703.0	707.2	582.8
82.5°	445.9	333.9	292.4	290.3	311.1	365.0	452.1	607.6	603.5	516.4	375.4
85°	207.4	192.9	186.6	192.9	199.1	207.4	294.5	433.4	458.3	277.9	246.8
87.5°	87.1	85.0	74.7	80.9	89.2	87.1	118.2	184.6	257.2	174.2	159.7
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)