

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: P195862

Luminaire Tested: **NAV-AF-04-D-UNV-T3R-7050-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195862
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-04-D-UNV-T3R-7050-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 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: 27221 lumens
Efficiency: N/A
Efficacy: 105.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium - Full Cutoff
BUG Rating: B3 - U0 - G4

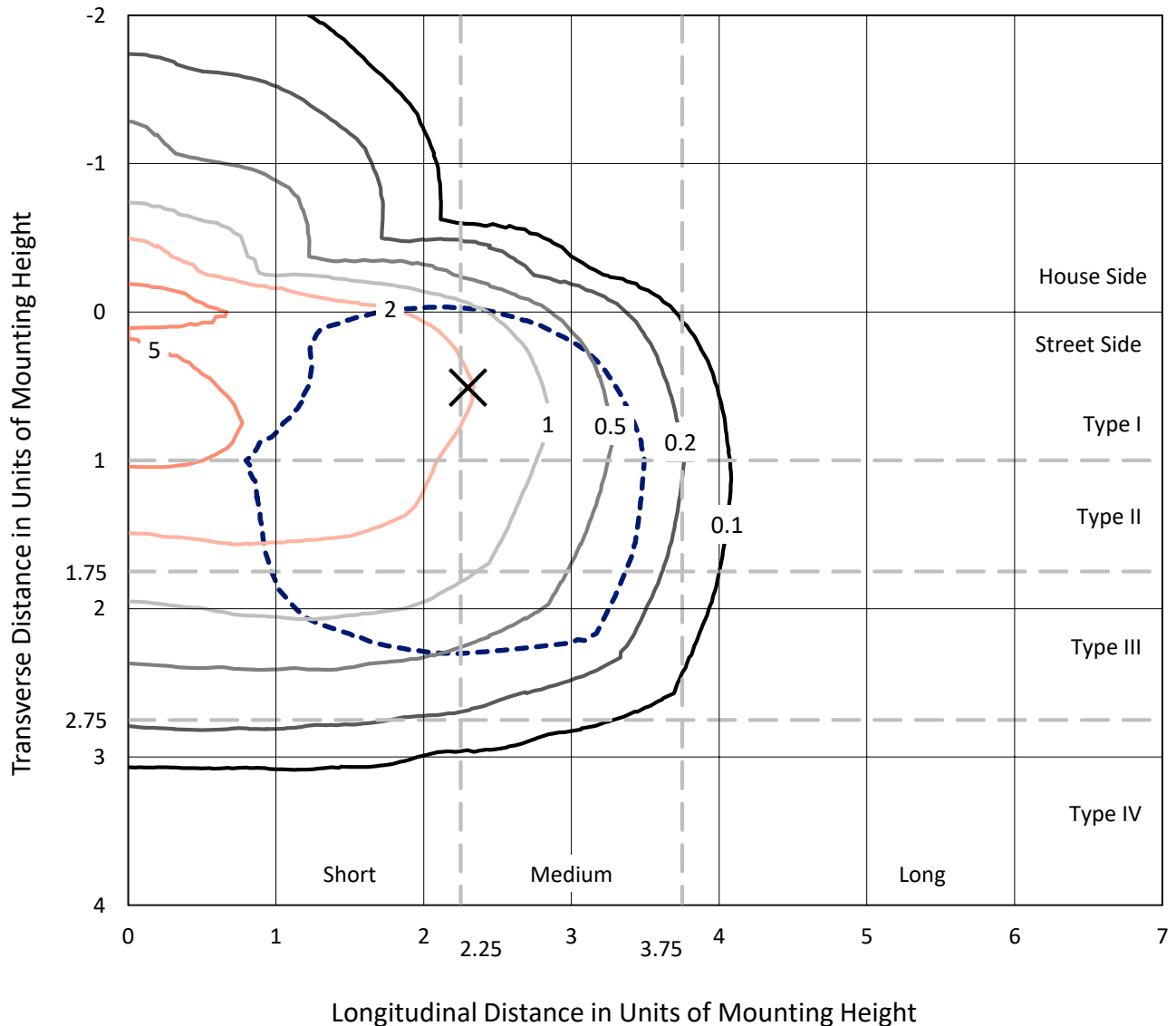
Input Watts (W): 258
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

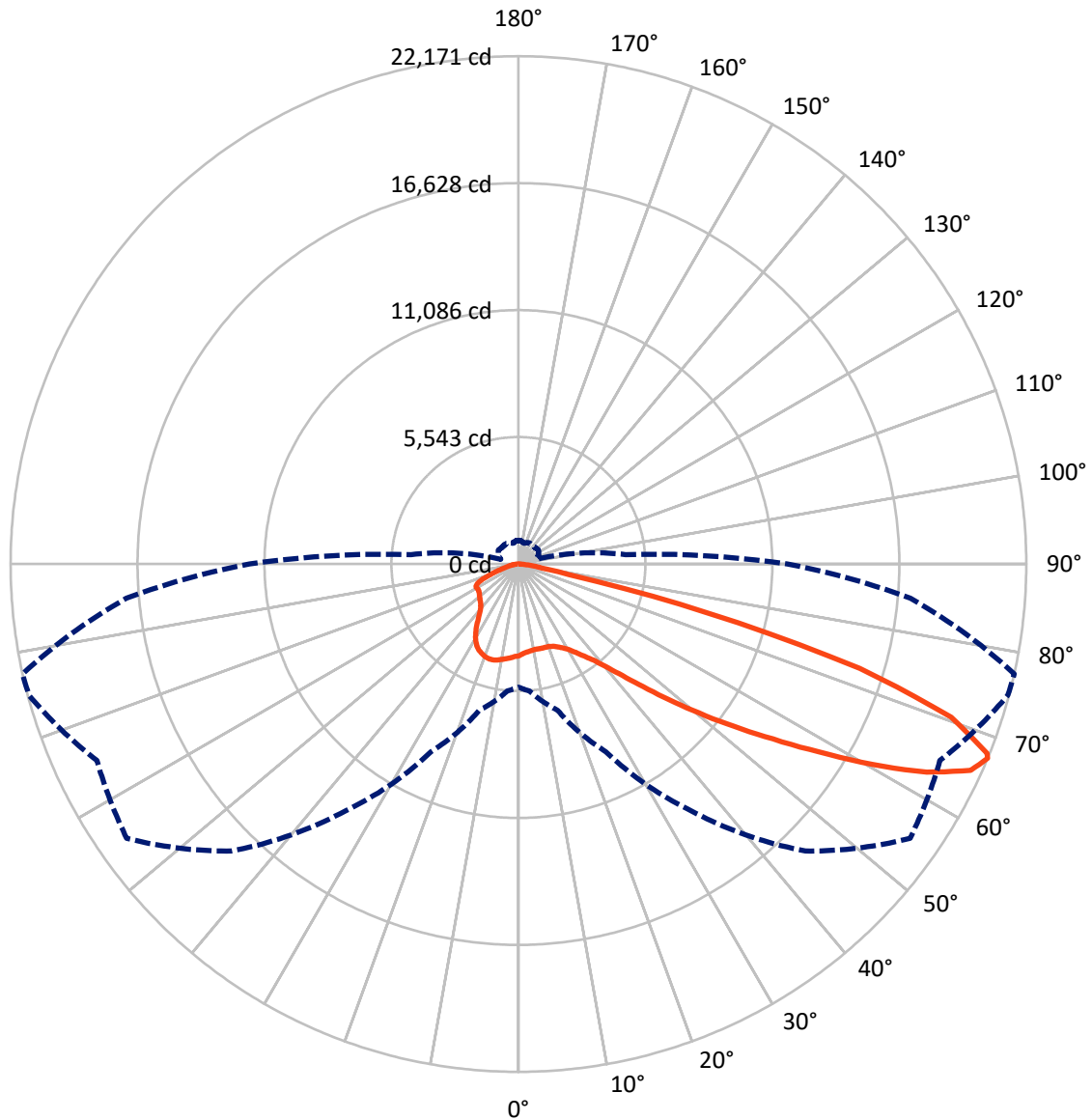
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.7 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
House Side	Lumens	4677.9	0.0	4677.9
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	22543.1	0.0	22543.1
	% Fixture	82.8	0.0	82.8
Total	Lumens	27221.0	0.0	27221.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	356.8	1.3
10°-20°	988.1	3.6
20°-30°	1678.9	6.2
30°-40°	2685.9	9.9
40°-50°	4135.0	15.2
50°-60°	5736.9	21.1
60°-70°	7652.6	28.1
70°-80°	3641.9	13.4
80°-90°	344.8	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°	27221.0	100.0
0°-180°	27221.0	100.0



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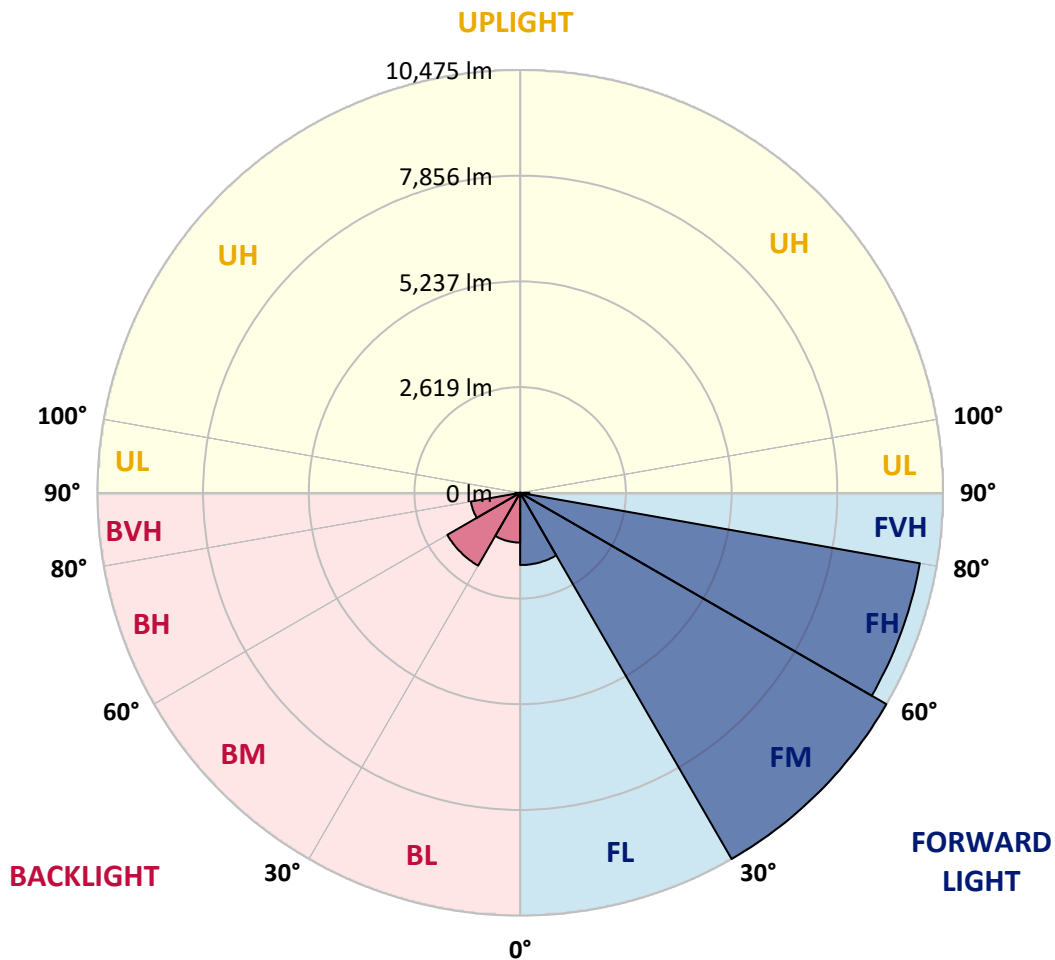
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1790.0	6.6			
FM	(30°-60°)	10474.9	38.5			
FH	(60°-80°)	10054.2	36.9			G4/12000
FVH	(80°-90°)	224.0	0.8			G2/225
BL	(0°-30°)	1233.8	4.5	B3/2500		
BM	(30°-60°)	2082.9	7.7	B2/2500		
BH	(60°-80°)	1240.3	4.6	B3/2500		G3/2500
BVH	(80°-90°)	120.9	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°	4006.2	4006.2	4006.2	4006.2	4006.2	4006.2	4006.2	4006.2	4006.2	4006.2	4006.2
2.5°	3592.3	3609.1	3610.8	3659.6	3681.5	3737.0	3797.6	3851.4	3898.5	3915.4	3945.6
5°	3232.2	3232.2	3237.3	3269.2	3331.5	3420.7	3546.9	3684.8	3829.5	3864.9	3954.1
7.5°	3043.8	3047.1	3050.5	3082.5	3131.3	3210.4	3336.6	3525.0	3765.6	3824.5	3981.0
10°	3060.6	3055.6	3038.7	3032.0	3052.2	3102.7	3212.0	3405.5	3711.8	3802.6	4029.8
12.5°	3324.8	3314.7	3259.2	3178.4	3104.4	3085.8	3161.6	3345.0	3686.5	3802.6	4112.2
15°	3777.4	3784.1	3674.7	3506.5	3313.0	3181.8	3171.7	3323.1	3678.1	3812.7	4208.1
17.5°	4366.3	4369.7	4218.2	3974.2	3652.9	3382.0	3240.6	3323.1	3678.1	3822.8	4300.7
20°	4992.2	4968.7	4797.0	4490.8	4073.5	3659.6	3366.8	3343.3	3688.2	3838.0	4388.2
22.5°	5528.9	5507.1	5327.0	5005.7	4527.8	3987.7	3536.8	3410.6	3743.7	3900.2	4511.0
25°	5998.4	6011.8	5836.9	5475.1	4980.4	4357.9	3790.8	3565.4	3859.8	4012.9	4662.4
27.5°	6568.8	6543.5	6341.6	5996.7	5446.5	4741.5	4108.9	3760.6	3997.8	4149.2	4847.5
30°	7228.4	7216.6	6944.0	6589.0	5959.7	5170.6	4423.5	3970.9	4177.8	4336.0	5079.7
32.5°	8029.3	8027.6	7734.8	7299.0	6536.8	5655.1	4795.3	4258.6	4440.3	4600.2	5387.6
35°	8936.2	8934.5	8631.6	8056.2	7201.4	6191.9	5232.8	4608.6	4765.1	4933.3	5754.4
37.5°	9565.5	9555.4	9397.2	8838.6	7936.7	6816.1	5779.7	5079.7	5133.5	5322.0	6196.9
40°	9686.6	9747.2	9883.5	9553.7	8739.3	7509.3	6328.2	5586.2	5636.6	5878.9	6753.9
42.5°	9555.4	9634.4	10087.0	10179.6	9541.9	8348.9	7014.7	6287.8	6351.7	6652.9	7408.4
45°	9440.9	9509.9	10077.0	10526.2	10334.4	9264.3	7871.1	7144.2	7265.4	7638.9	8155.5
47.5°	9245.8	9309.7	9878.4	10588.5	10787.0	10145.9	8902.5	8174.0	8382.6	8835.2	9006.8
50°	9235.7	9264.3	9607.5	10379.8	10943.5	10815.6	10045.0	9378.7	9698.4	10220.0	9949.1
52.5°	8979.9	9180.1	9491.4	10046.7	10946.8	11206.0	11170.6	10699.5	11192.5	11769.6	10982.2
55°	7415.1	7645.6	9104.4	9883.5	10926.7	11540.8	12198.7	12104.5	12875.1	13482.5	12139.8
57.5°	6923.8	7021.4	7987.2	9932.3	11094.9	12094.4	13226.7	13613.7	14799.9	15462.9	13527.9
60°	6789.2	6891.8	7763.4	9955.8	11550.9	13102.2	14621.6	15318.2	17063.0	17766.3	15104.5
62.5°	6639.4	6772.4	7780.2	9977.7	12351.8	14593.0	16472.4	17167.3	19386.7	20014.3	16581.8
65°	6202.0	6378.6	7469.0	9839.7	13228.4	16464.0	18918.9	19095.6	21306.5	21705.2	17473.6
67°	5372.5	5566.0	6614.2	9042.2	13147.7	17724.3	20875.7	20302.0	22122.5	22171.3	17184.2
67.5°	5110.0	5310.2	6324.8	8710.7	12917.1	17889.2	21222.3	20468.5	22115.8	22062.0	16914.9
70°	3440.9	3666.3	4479.0	6395.5	10361.3	16649.1	21138.2	19955.4	20665.4	20047.9	14532.4
72.5°	1707.8	1714.5	2234.5	3503.1	6277.7	11941.2	17633.4	17071.4	16751.7	15585.7	10664.2
75°	822.8	837.9	1055.0	1548.0	2646.7	6165.0	12025.4	11518.9	9807.7	8492.0	5337.1
77.5°	627.6	642.7	819.4	1007.9	1103.8	2010.7	5956.3	4813.9	2841.9	2269.8	1504.2
80°	484.6	513.2	691.5	774.0	730.2	806.0	1872.7	1473.9	1105.5	1014.6	745.4
82.5°	378.6	395.4	587.2	587.2	504.8	540.1	871.6	851.4	686.5	619.2	400.5
85°	267.5	301.2	472.8	437.5	331.5	334.8	521.6	499.7	353.3	284.4	156.5
87.5°	119.5	153.1	336.5	286.0	176.7	136.3	213.7	183.4	139.7	107.7	72.4
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°	4006.2	4006.2	4006.2	4006.2	4006.2	4006.2	4006.2	4006.2	4006.2	4006.2	4006.2
2.5°	3979.3	4006.2	4048.3	4073.5	4107.2	4120.6	4134.1	4157.6	4176.2	4171.1	4162.7
5°	4016.3	4061.7	4113.9	4130.7	4130.7	4113.9	4103.8	4105.5	4100.4	4097.1	4087.0
7.5°	4070.2	4132.4	4169.4	4152.6	4100.4	4034.8	3972.6	3935.5	3900.2	3878.3	3885.1
10°	4145.9	4214.9	4216.5	4142.5	4018.0	3875.0	3752.1	3673.1	3597.3	3563.7	3573.8
12.5°	4255.2	4324.2	4265.3	4105.5	3886.8	3663.0	3437.5	3274.3	3127.9	3092.6	3082.5
15°	4373.0	4426.9	4295.6	4026.4	3698.3	3329.8	2951.2	2707.3	2544.1	2515.5	2505.4
17.5°	4475.7	4505.9	4280.5	3885.1	3400.5	2820.0	2379.2	2214.3	2180.6	2197.4	2197.4
20°	4566.5	4556.4	4214.9	3666.3	2931.0	2254.7	1998.9	1997.2	2042.6	2084.7	2088.1
22.5°	4680.9	4601.8	4110.5	3341.6	2370.8	1881.1	1837.4	1881.1	1931.6	1978.7	1983.8
25°	4817.2	4652.3	3970.9	2878.9	1906.4	1707.8	1726.3	1763.3	1795.3	1832.3	1834.0
27.5°	4953.5	4691.0	3774.0	2335.4	1654.0	1596.8	1617.0	1632.1	1640.5	1664.1	1664.1
30°	5111.7	4721.3	3489.7	1871.0	1537.9	1499.2	1487.4	1480.7	1487.4	1519.4	1521.0
32.5°	5310.2	4775.2	3101.0	1605.2	1484.0	1430.2	1369.6	1336.0	1359.5	1416.7	1426.8
35°	5535.7	4839.1	2634.9	1499.2	1465.5	1396.5	1285.5	1233.3	1241.7	1293.9	1302.3
37.5°	5818.4	4921.5	2175.6	1473.9	1484.0	1393.2	1246.8	1172.8	1135.7	1137.4	1135.7
40°	6180.1	5004.0	1812.1	1480.7	1524.4	1401.6	1228.3	1112.2	1034.8	1038.2	1044.9
42.5°	6558.7	5057.8	1581.6	1500.9	1573.2	1413.4	1221.6	1053.3	986.0	1043.2	1095.4
45°	7001.2	5042.7	1462.2	1519.4	1610.2	1418.4	1196.3	1046.6	991.0	1162.7	1260.3
47.5°	7509.3	4977.1	1394.9	1527.8	1620.3	1416.7	1177.8	1068.4	1033.1	1330.9	1442.0
50°	8061.2	4874.4	1341.0	1514.3	1615.3	1410.0	1198.0	1095.4	1049.9	1367.9	1453.7
52.5°	8665.3	4780.2	1285.5	1484.0	1590.0	1389.8	1223.2	1083.6	1002.8	1260.3	1325.9
55°	9380.4	4758.3	1223.2	1431.9	1548.0	1367.9	1209.8	1046.6	950.7	1117.2	1157.6
57.5°	10198.1	4894.6	1142.5	1367.9	1490.8	1324.2	1177.8	1026.4	932.1	1016.3	1038.2
60°	11236.2	5195.8	1056.7	1300.6	1420.1	1258.6	1149.2	1031.4	937.2	1001.1	1006.2
62.5°	12047.3	5466.7	979.3	1218.2	1325.9	1179.5	1118.9	1036.5	952.3	1021.3	1012.9
65°	12341.7	5333.8	883.4	1095.4	1192.9	1092.0	1076.8	1039.8	952.3	1033.1	1014.6
67°	11737.7	4699.4	792.5	972.5	1066.8	1014.6	1036.5	1026.4	935.5	1031.4	999.5
67.5°	11449.9	4475.7	768.9	952.3	1033.1	991.0	1026.4	1019.6	930.5	1028.1	991.0
70°	9442.6	3210.4	649.5	799.2	864.8	873.3	964.1	975.9	890.1	965.8	898.5
72.5°	6718.5	2009.0	560.3	619.2	698.3	747.1	880.0	917.0	836.2	839.6	784.1
75°	3324.8	1078.5	499.7	477.9	543.5	622.6	767.3	836.2	757.2	700.0	681.4
77.5°	1122.3	610.8	422.3	385.3	422.3	499.7	636.0	730.2	668.0	592.3	580.5
80°	580.5	444.2	329.8	309.6	333.2	387.0	498.0	607.4	570.4	573.8	472.8
82.5°	361.8	270.9	237.2	235.6	252.4	296.1	366.8	493.0	489.6	419.0	304.5
85°	168.3	156.5	151.4	156.5	161.5	168.3	238.9	351.7	371.8	225.5	200.2
87.5°	70.7	69.0	60.6	65.6	72.4	70.7	95.9	149.7	208.6	141.3	129.6
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)