

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: P196342

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196342
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-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 4000K, 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: 27845.8 lumens
Efficiency: N/A
Efficacy: 107.9 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

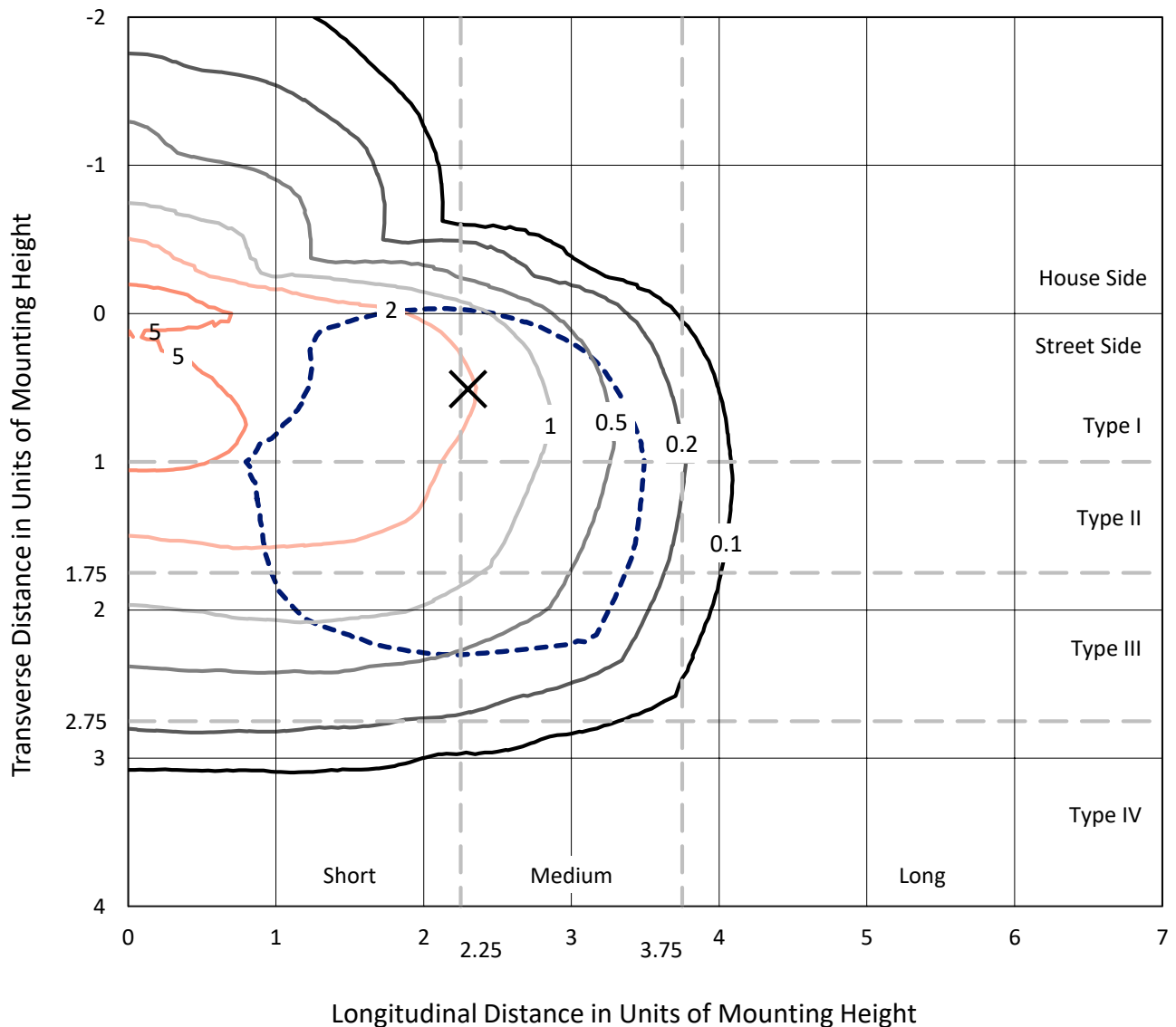
Input Watts (W): 258
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

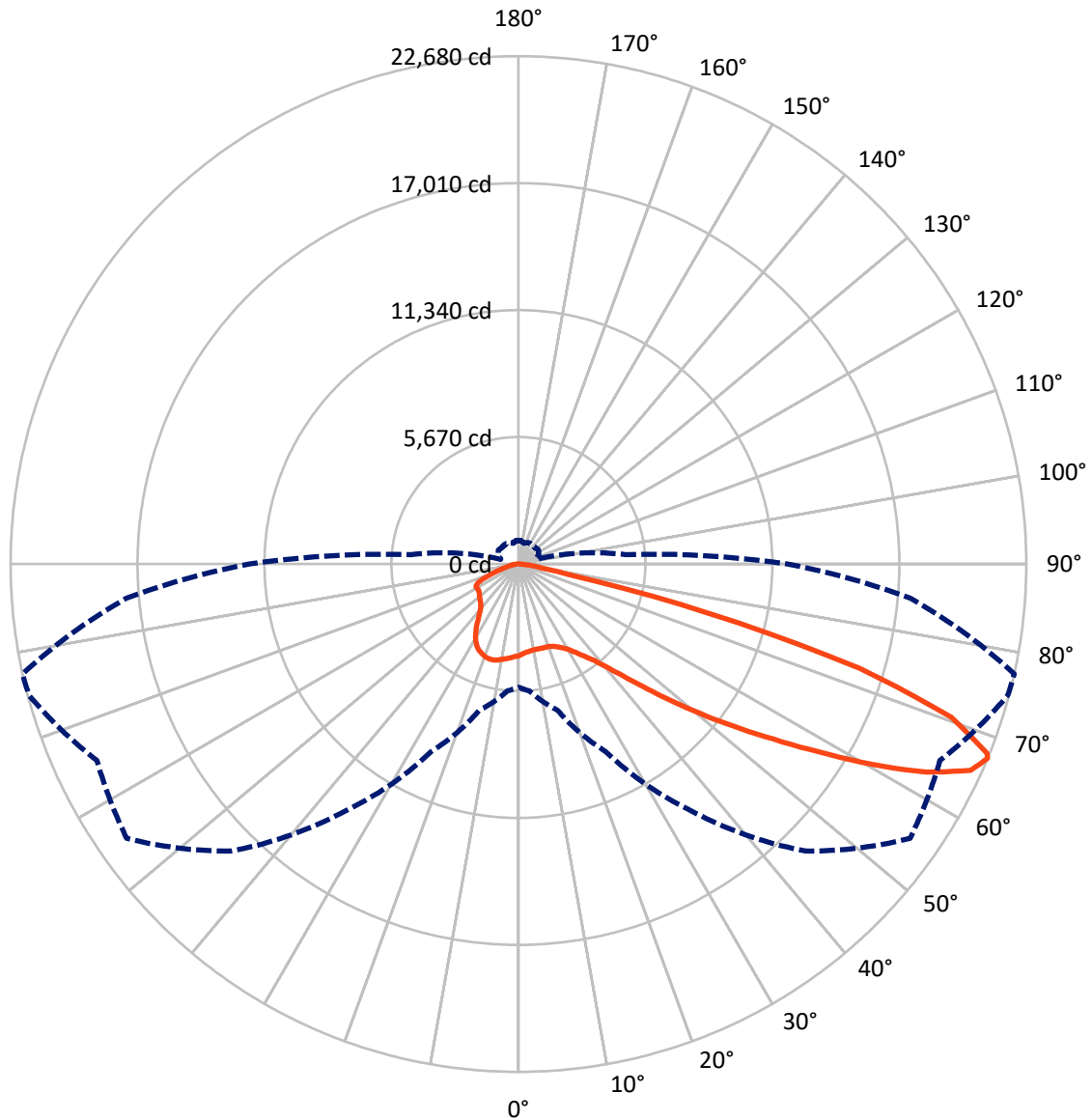
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.9 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	4785.3	0.0	4785.3
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	23060.5	0.0	23060.5
	% Fixture	82.8	0.0	82.8
Total	Lumens	27845.8	0.0	27845.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	365.0	1.3
10°-20°	1010.8	3.6
20°-30°	1717.5	6.2
30°-40°	2747.6	9.9
40°-50°	4229.9	15.2
50°-60°	5868.6	21.1
60°-70°	7828.3	28.1
70°-80°	3725.5	13.4
80°-90°	352.7	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°	27845.8	100.0
0°-180°	27845.8	100.0



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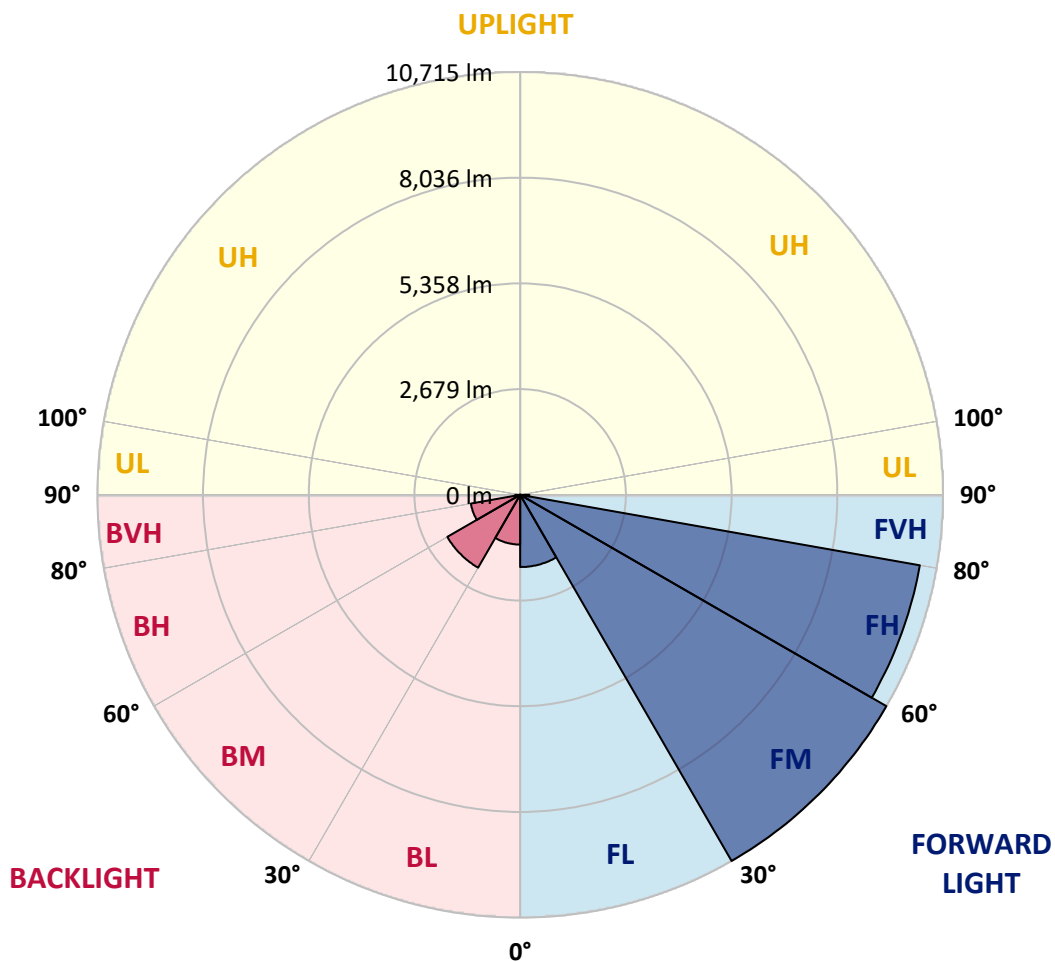
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1831.1	6.6			
FM	(30°-60°)	10715.3	38.5			
FH	(60°-80°)	10284.9	36.9			G4/12000
FVH	(80°-90°)	229.1	0.8			G3/500
BL	(0°-30°)	1262.2	4.5	B3/2500		
BM	(30°-60°)	2130.7	7.7	B2/2500		
BH	(60°-80°)	1268.8	4.6	B3/2500		G3/2500
BVH	(80°-90°)	123.6	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°	4098.1	4098.1	4098.1	4098.1	4098.1	4098.1	4098.1	4098.1	4098.1	4098.1	4098.1
2.5°	3674.7	3691.9	3693.7	3743.6	3766.0	3822.8	3884.8	3939.8	3988.0	4005.3	4036.2
5°	3306.4	3306.4	3311.6	3344.2	3408.0	3499.2	3628.3	3769.4	3917.4	3953.6	4044.8
7.5°	3113.7	3117.0	3120.5	3153.2	3203.2	3284.1	3413.2	3605.9	3852.0	3912.3	4072.4
10°	3130.8	3125.7	3108.4	3101.6	3122.3	3173.9	3285.7	3483.7	3797.0	3889.9	4122.3
12.5°	3401.1	3390.8	3334.0	3251.3	3175.6	3156.6	3234.2	3421.8	3771.1	3889.9	4206.6
15°	3864.1	3870.9	3759.0	3587.0	3389.0	3254.8	3244.5	3399.4	3762.5	3900.2	4304.7
17.5°	4466.5	4470.0	4315.0	4065.4	3736.7	3459.6	3315.0	3399.4	3762.5	3910.5	4399.4
20°	5106.8	5082.7	4907.1	4593.9	4167.0	3743.6	3444.1	3420.0	3772.8	3926.1	4488.9
22.5°	5655.8	5633.5	5449.3	5120.6	4631.7	4079.2	3618.0	3488.9	3829.6	3989.7	4614.5
25°	6136.1	6149.8	5970.9	5600.8	5094.7	4457.9	3877.8	3647.2	3948.4	4105.0	4769.4
27.5°	6719.6	6693.7	6487.1	6134.3	5571.5	4850.3	4203.2	3846.9	4089.6	4244.4	4958.8
30°	7394.3	7382.2	7103.4	6740.2	6096.5	5289.3	4525.0	4062.0	4273.7	4435.5	5196.3
32.5°	8213.6	8211.8	7912.3	7466.5	6686.8	5784.9	4905.4	4356.3	4542.2	4705.8	5511.2
35°	9141.3	9139.6	8829.7	8241.1	7366.7	6334.0	5352.9	4714.4	4874.5	5046.5	5886.5
37.5°	9785.0	9774.7	9612.9	9041.5	8118.9	6972.5	5912.3	5196.3	5251.3	5444.1	6339.1
40°	9908.9	9970.9	10110.3	9773.0	8939.9	7681.6	6473.4	5714.4	5766.0	6013.8	6908.9
42.5°	9774.7	9855.5	10318.5	10413.2	9760.9	8540.5	7175.7	6432.1	6497.5	6805.6	7578.4
45°	9657.6	9728.2	10308.3	10767.8	10571.6	9476.9	8051.7	7308.2	7432.1	7814.2	8342.7
47.5°	9458.0	9523.4	10105.1	10831.5	11034.6	10378.8	9106.8	8361.6	8575.0	9038.0	9213.5
50°	9447.7	9476.9	9828.0	10618.0	11194.7	11063.8	10275.5	9593.9	9921.0	10454.6	10177.4
52.5°	9186.0	9390.8	9709.2	10277.3	11198.0	11463.2	11427.0	10945.1	11449.4	12039.7	11234.3
55°	7585.3	7821.1	9313.4	10110.3	11177.5	11805.7	12478.7	12382.3	13170.6	13791.9	12418.4
57.5°	7082.7	7182.5	8170.5	10160.3	11349.5	12372.0	13530.3	13926.1	15139.6	15817.8	13838.4
60°	6945.0	7050.0	7941.6	10184.3	11816.0	13402.9	14957.2	15669.8	17454.6	18174.1	15451.2
62.5°	6791.8	6927.8	7958.8	10206.7	12635.3	14927.9	16850.5	17561.3	19831.6	20473.6	16962.4
65°	6344.3	6525.0	7640.4	10065.5	13532.0	16841.9	19353.1	19533.9	21795.5	22203.4	17874.6
67°	5495.8	5693.7	6766.0	9249.7	13449.5	18131.1	21354.8	20767.9	22630.2	22680.1	17578.6
67.5°	5227.3	5432.1	6470.0	8910.6	13213.6	18299.8	21709.4	20938.3	22623.4	22568.3	17303.1
70°	3519.9	3750.4	4581.8	6542.3	10599.1	17031.2	21623.3	20413.4	21139.7	20508.0	14865.9
72.5°	1747.0	1753.8	2285.8	3583.5	6421.8	12215.3	18038.1	17463.2	17136.2	15943.4	10909.0
75°	841.7	857.1	1079.2	1583.5	2707.4	6306.5	12301.4	11783.3	10032.8	8686.9	5459.6
77.5°	642.0	657.5	838.2	1031.0	1129.1	2056.8	6093.0	4924.4	2907.1	2321.9	1538.7
80°	495.7	525.0	707.4	791.8	747.0	824.5	1915.7	1507.7	1130.9	1037.9	762.5
82.5°	387.3	404.5	600.7	600.7	516.4	552.5	891.6	870.9	702.3	633.4	409.7
85°	273.6	308.1	483.7	447.5	339.1	342.5	533.6	511.2	361.4	290.9	160.1
87.5°	122.2	156.6	344.2	292.6	180.8	139.4	218.6	187.6	142.9	110.2	74.1
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°	4098.1	4098.1	4098.1	4098.1	4098.1	4098.1	4098.1	4098.1	4098.1	4098.1	4098.1
2.5°	4070.6	4098.1	4141.2	4167.0	4201.5	4215.2	4229.0	4253.0	4272.0	4266.8	4258.2
5°	4108.5	4154.9	4208.3	4225.5	4225.5	4208.3	4198.0	4199.7	4194.5	4191.1	4180.8
7.5°	4163.6	4227.2	4265.1	4247.9	4194.5	4127.4	4063.8	4025.8	3989.7	3967.3	3974.3
10°	4241.1	4311.6	4313.3	4237.6	4110.2	3963.9	3838.2	3757.4	3679.9	3645.5	3655.8
12.5°	4352.9	4423.4	4363.2	4199.7	3976.0	3747.1	3516.4	3349.4	3199.7	3163.6	3153.2
15°	4473.4	4528.5	4394.2	4118.8	3783.2	3406.2	3018.9	2769.4	2602.5	2573.2	2562.9
17.5°	4578.4	4609.3	4378.7	3974.3	3478.5	2884.7	2433.8	2265.1	2230.6	2247.8	2247.8
20°	4671.3	4661.0	4311.6	3750.4	2998.3	2306.4	2044.8	2043.0	2089.5	2132.5	2136.0
22.5°	4788.3	4707.4	4204.8	3418.3	2425.2	1924.3	1879.6	1924.3	1975.9	2024.1	2029.3
25°	4927.8	4759.1	4062.0	2945.0	1950.2	1747.0	1765.9	1803.8	1836.5	1874.4	1876.1
27.5°	5067.2	4798.7	3860.6	2389.0	1692.0	1633.4	1654.1	1669.6	1678.2	1702.3	1702.3
30°	5229.0	4829.7	3569.8	1913.9	1573.2	1533.6	1521.5	1514.7	1521.5	1554.3	1555.9
32.5°	5432.1	4884.8	3172.2	1642.0	1518.1	1463.0	1401.0	1366.7	1390.7	1449.2	1459.5
35°	5662.7	4950.2	2695.4	1533.6	1499.1	1428.6	1315.0	1261.6	1270.2	1323.6	1332.2
37.5°	5951.9	5034.5	2225.5	1507.7	1518.1	1425.2	1275.4	1199.7	1161.8	1163.5	1161.8
40°	6321.9	5118.8	1853.7	1514.7	1559.4	1433.8	1256.5	1137.7	1058.5	1062.0	1068.9
42.5°	6709.2	5173.9	1617.9	1535.3	1609.3	1445.8	1249.6	1077.5	1008.6	1067.1	1120.5
45°	7161.9	5158.4	1495.8	1554.3	1647.2	1451.0	1223.8	1070.6	1013.7	1189.4	1289.2
47.5°	7681.6	5091.3	1426.9	1562.9	1657.5	1449.2	1204.8	1092.9	1056.8	1361.4	1475.1
50°	8246.2	4986.3	1371.8	1549.1	1652.4	1442.4	1225.5	1120.5	1074.0	1399.3	1487.1
52.5°	8864.2	4889.9	1315.0	1518.1	1626.5	1421.7	1251.3	1108.5	1025.8	1289.2	1356.3
55°	9595.7	4867.5	1251.3	1464.8	1583.5	1399.3	1237.6	1070.6	972.5	1142.8	1184.2
57.5°	10432.2	5006.9	1168.7	1399.3	1525.0	1354.6	1204.8	1050.0	953.5	1039.6	1062.0
60°	11494.1	5315.0	1081.0	1330.4	1452.7	1287.5	1175.6	1055.1	958.7	1024.1	1029.3
62.5°	12323.8	5592.2	1001.8	1246.2	1356.3	1206.6	1144.6	1060.3	974.2	1044.7	1036.1
65°	12625.0	5456.2	903.7	1120.5	1220.3	1117.1	1101.5	1063.7	974.2	1056.8	1037.9
67°	12007.1	4807.3	810.7	994.8	1091.3	1037.9	1060.3	1050.0	957.0	1055.1	1022.4
67.5°	11712.7	4578.4	786.5	974.2	1056.8	1013.7	1050.0	1043.0	951.9	1051.7	1013.7
70°	9659.3	3284.1	664.4	817.5	884.6	893.3	986.2	998.3	910.5	988.0	919.1
72.5°	6872.7	2055.1	573.2	633.4	714.3	764.2	900.2	938.0	855.4	858.9	802.1
75°	3401.1	1103.3	511.2	488.9	556.0	636.9	784.9	855.4	774.6	716.1	697.0
77.5°	1148.1	624.8	432.0	394.1	432.0	511.2	650.6	747.0	683.3	605.9	593.8
80°	593.8	454.4	337.4	316.7	340.8	395.9	509.4	621.3	583.5	587.0	483.7
82.5°	370.1	277.1	242.6	241.0	258.2	302.9	375.2	504.3	500.8	428.6	311.5
85°	172.2	160.1	154.9	160.1	165.2	172.2	244.4	359.8	380.3	230.7	204.8
87.5°	72.3	70.6	62.0	67.1	74.1	72.3	98.1	153.1	213.4	144.5	132.6
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)