

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: P196817

Luminaire Tested: **NAV-AF-05-D-UNV-T3R-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196817
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-7030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 3000K, 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: 29580.8 lumens
Efficiency: N/A
Efficacy: 106.0 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

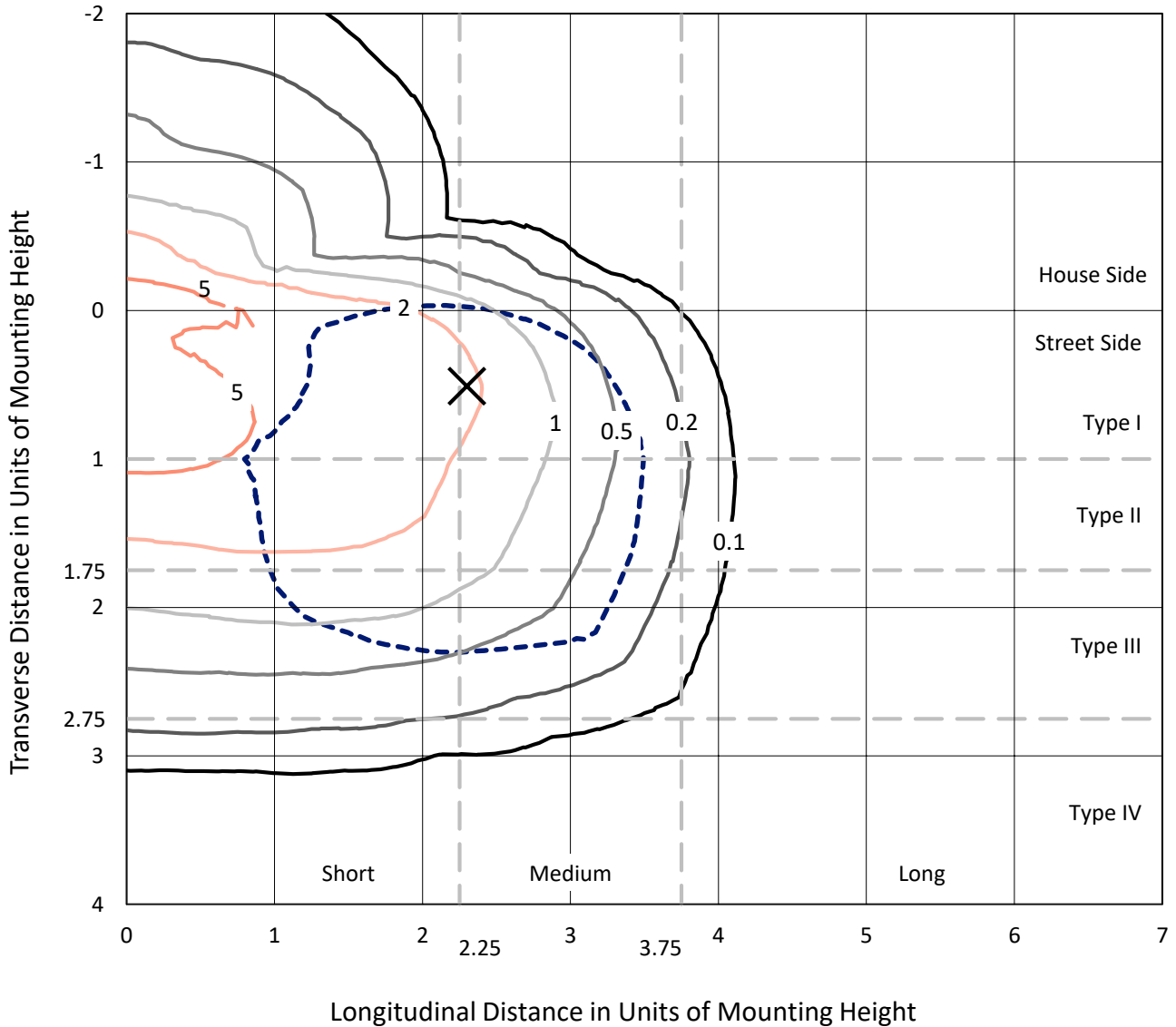
Input Watts (W): 279
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

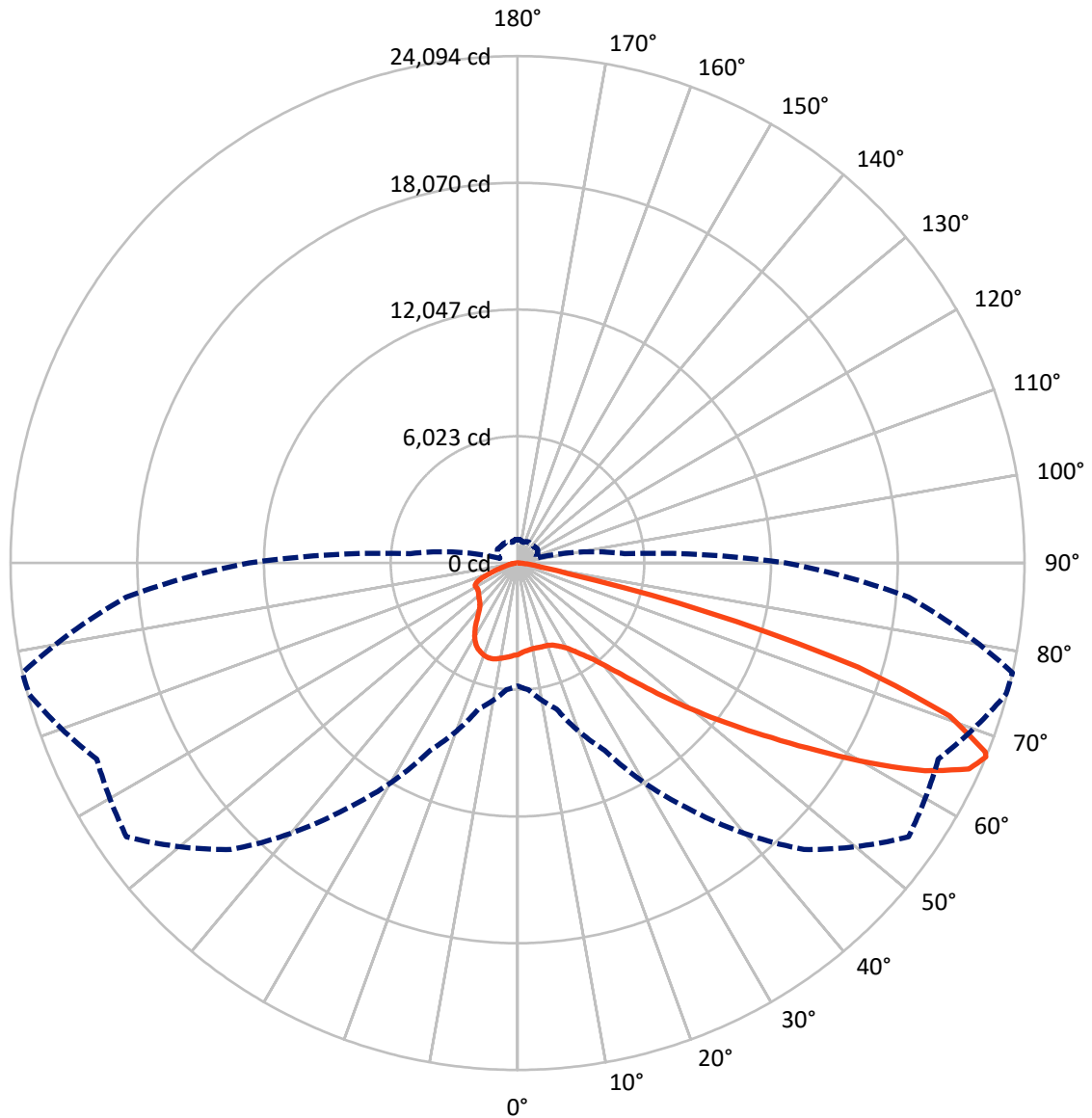
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.4 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	5083.5	0.0	5083.5
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	24497.4	0.0	24497.4
	% Fixture	82.8	0.0	82.8
Total	Lumens	29580.8	0.0	29580.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	387.7	1.3
10°-20°	1073.8	3.6
20°-30°	1824.5	6.2
30°-40°	2918.8	9.9
40°-50°	4493.5	15.2
50°-60°	6234.2	21.1
60°-70°	8316.0	28.1
70°-80°	3957.6	13.4
80°-90°	374.7	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°	29580.8	100.0
0°-180°	29580.8	100.0



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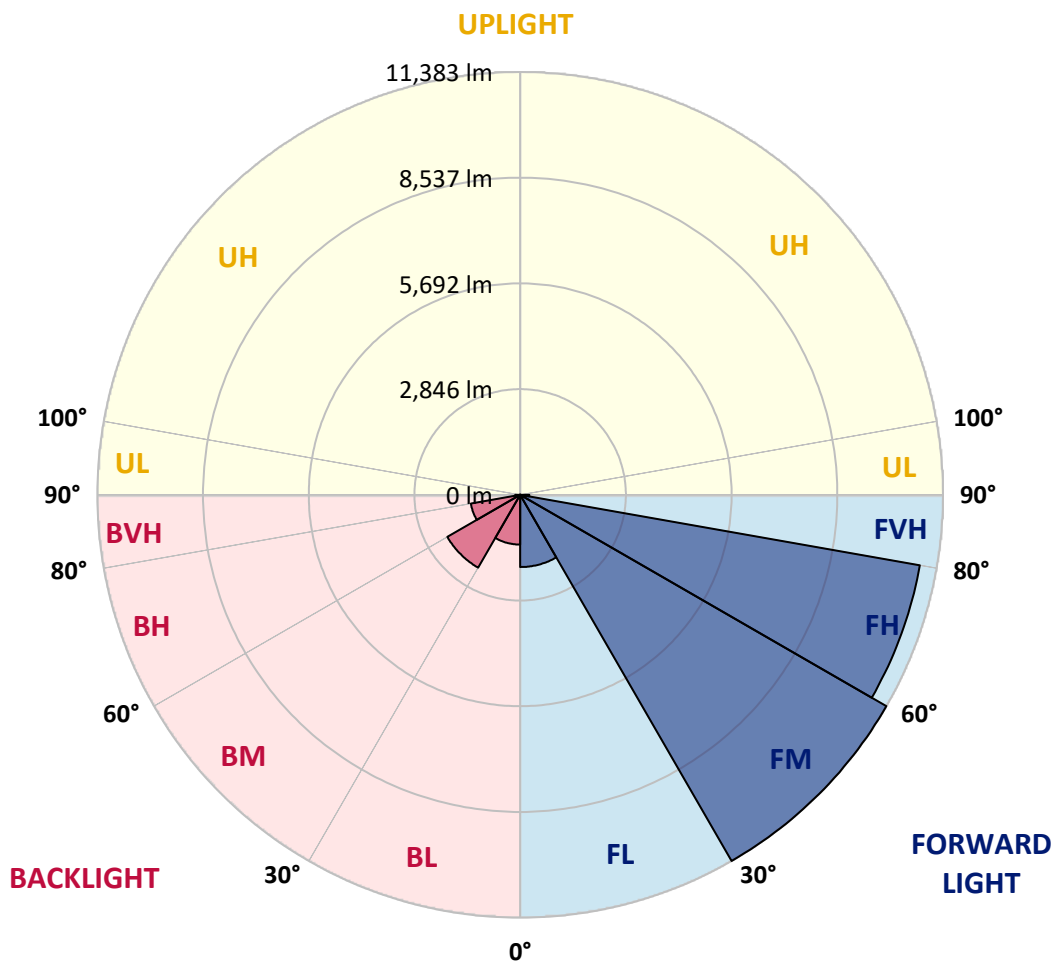
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1945.2	6.6			
FM	(30°-60°)	11383.0	38.5			
FH	(60°-80°)	10925.8	36.9			G4/12000
FVH	(80°-90°)	243.4	0.8			G3/500
BL	(0°-30°)	1340.8	4.5	B3/2500		
BM	(30°-60°)	2263.4	7.7	B2/2500		
BH	(60°-80°)	1347.9	4.6	B3/2500		G3/2500
BVH	(80°-90°)	131.3	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°	4353.6	4353.6	4353.6	4353.6	4353.6	4353.6	4353.6	4353.6	4353.6	4353.6	4353.6
2.5°	3903.8	3922.0	3923.8	3976.8	4000.6	4060.9	4126.8	4185.2	4236.5	4254.8	4287.7
5°	3512.4	3512.4	3517.9	3552.7	3620.3	3717.2	3854.3	4004.3	4161.5	4199.9	4296.8
7.5°	3307.6	3311.3	3314.9	3349.7	3402.8	3488.6	3625.8	3830.6	4092.1	4156.0	4326.1
10°	3326.0	3320.5	3302.2	3294.8	3316.8	3371.6	3490.5	3700.7	4033.6	4132.3	4379.1
12.5°	3612.9	3602.1	3541.7	3453.9	3373.5	3353.3	3435.6	3634.9	4006.1	4132.3	4468.7
15°	4104.9	4112.2	3993.3	3810.5	3600.2	3457.6	3446.6	3611.1	3997.0	4143.2	4572.9
17.5°	4744.8	4748.5	4583.9	4318.8	3969.5	3675.2	3521.5	3611.1	3997.0	4154.2	4673.4
20°	5424.9	5399.4	5212.9	4880.1	4426.6	3976.8	3658.8	3633.1	4007.9	4170.7	4768.6
22.5°	6008.2	5984.4	5788.9	5439.6	4920.4	4333.4	3843.4	3706.3	4068.3	4238.3	4902.0
25°	6518.4	6533.0	6342.8	5949.7	5412.1	4735.7	4119.5	3874.5	4194.5	4360.9	5066.6
27.5°	7138.2	7110.8	6891.4	6516.6	5918.7	5152.5	4465.1	4086.7	4344.3	4508.9	5267.7
30°	7854.9	7842.2	7546.0	7160.2	6476.4	5618.7	4807.0	4315.0	4540.0	4712.0	5520.1
32.5°	8725.3	8723.5	8405.4	7931.7	7103.5	6145.4	5211.0	4627.7	4825.2	4998.9	5854.6
35°	9710.9	9709.0	9379.9	8754.6	7825.7	6728.6	5686.5	5008.1	5178.2	5361.1	6253.2
37.5°	10394.7	10383.8	10211.8	9604.8	8624.8	7407.0	6280.7	5520.1	5578.6	5783.4	6734.2
40°	10526.4	10592.1	10740.3	10382.0	9497.0	8160.3	6876.8	6070.5	6125.3	6388.6	7339.4
42.5°	10383.8	10469.7	10961.6	11062.1	10369.1	9072.8	7622.8	6832.8	6902.4	7229.6	8050.7
45°	10259.5	10334.4	10950.5	11438.8	11230.3	10067.3	8553.5	7763.5	7895.2	8301.1	8862.4
47.5°	10047.3	10116.8	10734.8	11506.4	11722.1	11025.5	9674.3	8882.6	9109.3	9601.1	9787.7
50°	10036.3	10067.3	10440.4	11279.7	11892.3	11753.2	10915.8	10191.7	10539.1	11105.9	10811.6
52.5°	9758.4	9976.0	10314.3	10917.6	11895.8	12177.4	12139.0	11627.1	12162.8	12790.0	11934.3
55°	8058.0	8308.4	9893.8	10740.3	11873.9	12541.4	13256.2	13153.8	13991.3	14651.3	13192.2
57.5°	7524.0	7630.1	8679.7	10793.2	12056.8	13142.9	14373.4	14793.9	16083.0	16803.4	14700.8
60°	7377.7	7489.2	8436.5	10818.9	12552.2	14238.1	15889.1	16646.2	18542.3	19306.5	16413.9
62.5°	7215.1	7359.4	8454.7	10842.7	13422.6	15858.1	17900.5	18655.6	21067.4	21749.3	18019.4
65°	6739.6	6931.6	8116.5	10692.7	14375.2	17891.3	20559.0	20750.9	23153.5	23586.9	18988.3
67°	5838.3	6048.5	7187.6	9826.0	14287.5	19260.9	22685.5	22061.9	24040.5	24093.5	18673.9
67.5°	5553.0	5770.5	6873.2	9465.9	14037.0	19440.1	23062.1	22243.0	24033.1	23974.5	18381.3
70°	3739.2	3984.1	4867.3	6949.9	11259.6	18092.5	22970.7	21685.3	22456.9	21785.9	15792.3
72.5°	1855.9	1863.2	2428.2	3806.8	6821.9	12976.5	19162.1	18551.3	18204.0	16936.9	11588.7
75°	894.1	910.5	1146.4	1682.1	2876.1	6699.4	13067.9	12517.5	10658.0	9228.1	5799.8
77.5°	682.0	698.5	890.5	1095.3	1199.4	2184.9	6472.7	5231.3	3088.2	2466.5	1634.6
80°	526.6	557.7	751.4	841.1	793.6	875.8	2035.1	1601.7	1201.3	1102.5	810.0
82.5°	411.4	429.7	638.1	638.1	548.5	586.9	947.2	925.2	746.0	672.8	435.2
85°	290.7	327.3	513.8	475.4	360.2	363.9	566.8	543.0	383.9	308.9	170.0
87.5°	129.8	166.4	365.7	310.9	192.0	148.1	232.1	199.3	151.8	117.0	78.6
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°	4353.6	4353.6	4353.6	4353.6	4353.6	4353.6	4353.6	4353.6	4353.6	4353.6	4353.6
2.5°	4324.3	4353.6	4399.3	4426.6	4463.2	4477.9	4492.5	4518.1	4538.2	4532.7	4523.6
5°	4364.5	4413.8	4470.6	4488.8	4488.8	4470.6	4459.5	4461.4	4455.9	4452.2	4441.3
7.5°	4423.1	4490.7	4530.9	4512.6	4455.9	4384.6	4317.0	4276.7	4238.3	4214.5	4221.9
10°	4505.3	4580.2	4582.2	4501.6	4366.3	4210.9	4077.4	3991.5	3909.2	3872.7	3883.6
12.5°	4624.2	4699.1	4635.1	4461.4	4223.8	3980.6	3735.5	3558.1	3399.0	3360.7	3349.7
15°	4752.1	4810.6	4668.0	4375.5	4018.9	3618.4	3207.1	2942.0	2764.6	2733.5	2722.5
17.5°	4863.6	4896.6	4651.6	4221.9	3695.2	3064.5	2585.4	2406.2	2369.7	2388.0	2388.0
20°	4962.4	4951.4	4580.2	3984.1	3185.1	2450.1	2172.2	2170.3	2219.7	2265.5	2269.1
22.5°	5086.8	5000.8	4466.8	3631.3	2576.3	2044.2	1996.7	2044.2	2099.1	2150.2	2155.6
25°	5234.8	5055.7	4315.0	3128.4	2071.7	1855.9	1876.0	1916.2	1951.0	1991.1	1993.0
27.5°	5382.9	5097.7	4101.1	2537.9	1797.4	1735.1	1757.1	1773.6	1782.8	1808.4	1808.4
30°	5554.8	5130.6	3792.2	2033.2	1671.2	1629.2	1616.4	1609.1	1616.4	1651.1	1652.9
32.5°	5770.5	5189.2	3369.8	1744.4	1612.6	1554.2	1488.3	1451.8	1477.4	1539.6	1550.5
35°	6015.6	5258.6	2863.3	1629.2	1592.6	1517.6	1396.9	1340.3	1349.4	1406.0	1415.2
37.5°	6322.8	5348.2	2364.2	1601.7	1612.6	1514.0	1355.0	1274.4	1234.2	1236.0	1234.2
40°	6715.8	5437.9	1969.2	1609.1	1656.6	1523.1	1334.7	1208.6	1124.5	1128.1	1135.4
42.5°	7127.3	5496.3	1718.7	1631.0	1709.6	1535.8	1327.5	1144.6	1071.5	1133.7	1190.3
45°	7608.2	5479.9	1588.9	1651.1	1749.8	1541.4	1300.0	1137.3	1077.0	1263.5	1369.4
47.5°	8160.3	5408.6	1515.8	1660.2	1760.8	1539.6	1279.9	1161.1	1122.6	1446.3	1567.0
50°	8760.1	5297.0	1457.3	1645.6	1755.4	1532.3	1301.9	1190.3	1141.0	1486.5	1579.8
52.5°	9416.5	5194.6	1396.9	1612.6	1727.8	1510.3	1329.2	1177.5	1089.8	1369.4	1440.8
55°	10193.6	5170.8	1329.2	1556.0	1682.1	1486.5	1314.6	1137.3	1033.0	1214.1	1258.0
57.5°	11082.1	5319.0	1241.5	1486.5	1620.0	1439.0	1279.9	1115.3	1013.0	1104.4	1128.1
60°	12210.4	5646.2	1148.4	1413.4	1543.2	1367.7	1248.9	1120.8	1018.4	1087.9	1093.3
62.5°	13091.7	5940.7	1064.1	1323.7	1440.8	1281.7	1215.9	1126.4	1034.9	1109.8	1100.7
65°	13411.7	5796.2	960.0	1190.3	1296.4	1186.7	1170.1	1130.0	1034.9	1122.6	1102.5
67°	12755.3	5106.9	861.2	1056.9	1159.2	1102.5	1126.4	1115.3	1016.6	1120.8	1086.1
67.5°	12442.6	4863.6	835.7	1034.9	1122.6	1077.0	1115.3	1108.0	1011.0	1117.1	1077.0
70°	10261.2	3488.6	705.9	868.5	939.8	948.9	1047.7	1060.5	967.3	1049.6	976.3
72.5°	7300.9	2183.1	608.9	672.8	758.8	811.8	956.2	996.6	908.7	912.5	852.0
75°	3612.9	1172.1	543.0	519.3	590.5	676.6	833.7	908.7	822.8	760.7	740.6
77.5°	1219.6	663.8	458.9	418.7	458.9	543.0	691.2	793.6	725.9	643.6	630.9
80°	630.9	482.7	358.4	336.4	362.0	420.5	541.3	660.0	619.8	623.6	513.8
82.5°	393.2	294.4	257.9	256.0	274.2	321.8	398.6	535.7	532.1	455.3	330.9
85°	182.8	170.0	164.6	170.0	175.6	182.8	259.6	382.2	404.0	245.0	217.5
87.5°	76.8	75.0	65.8	71.3	78.6	76.8	104.3	162.7	226.7	153.6	140.8
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)