

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: P196326

Luminaire Tested: **NAV-AF-06-D-UNV-T3R-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196326
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-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 4000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 24694.1 lumens
Efficiency: N/A
Efficacy: 127.9 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

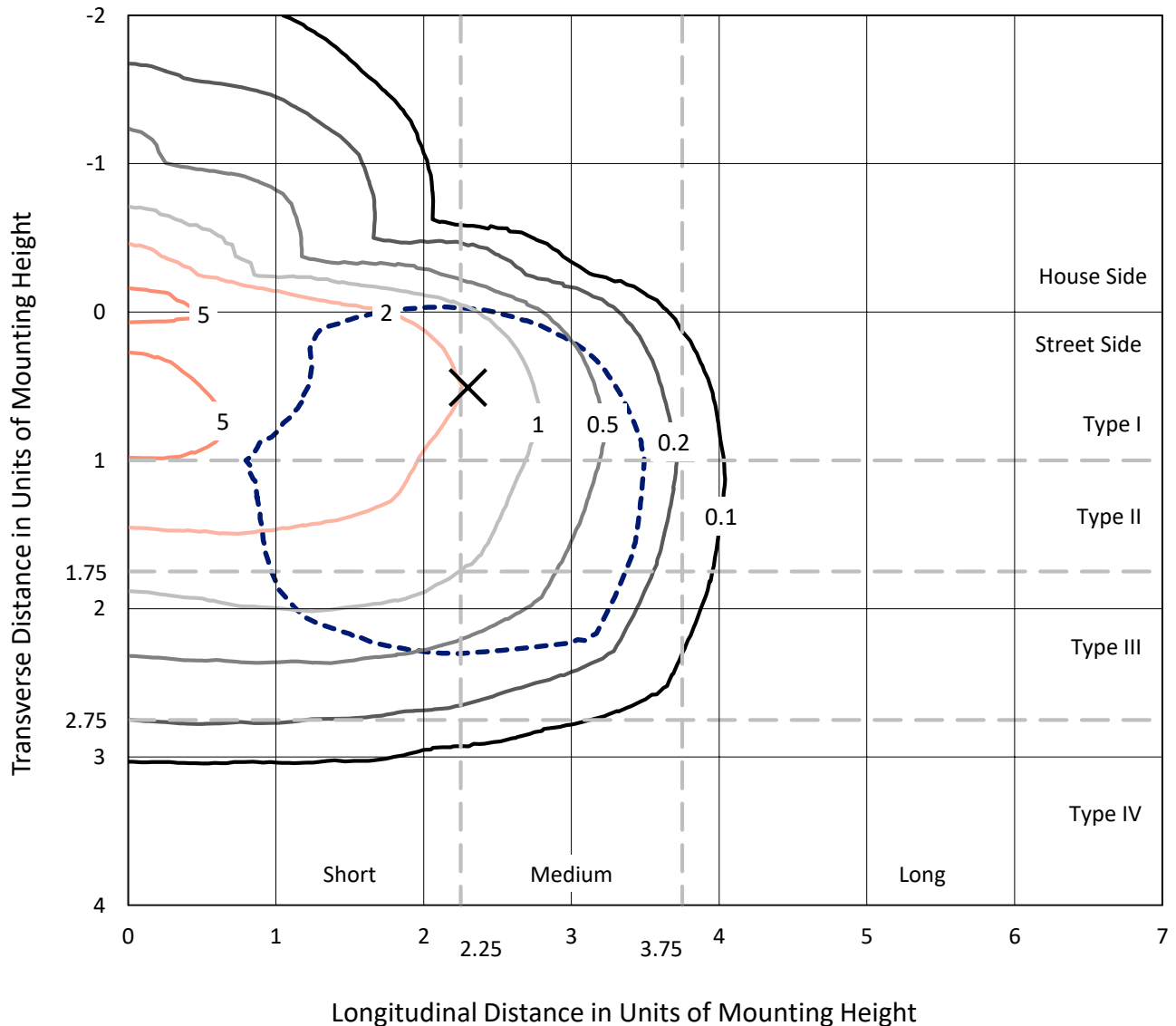
Input Watts (W): 193
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

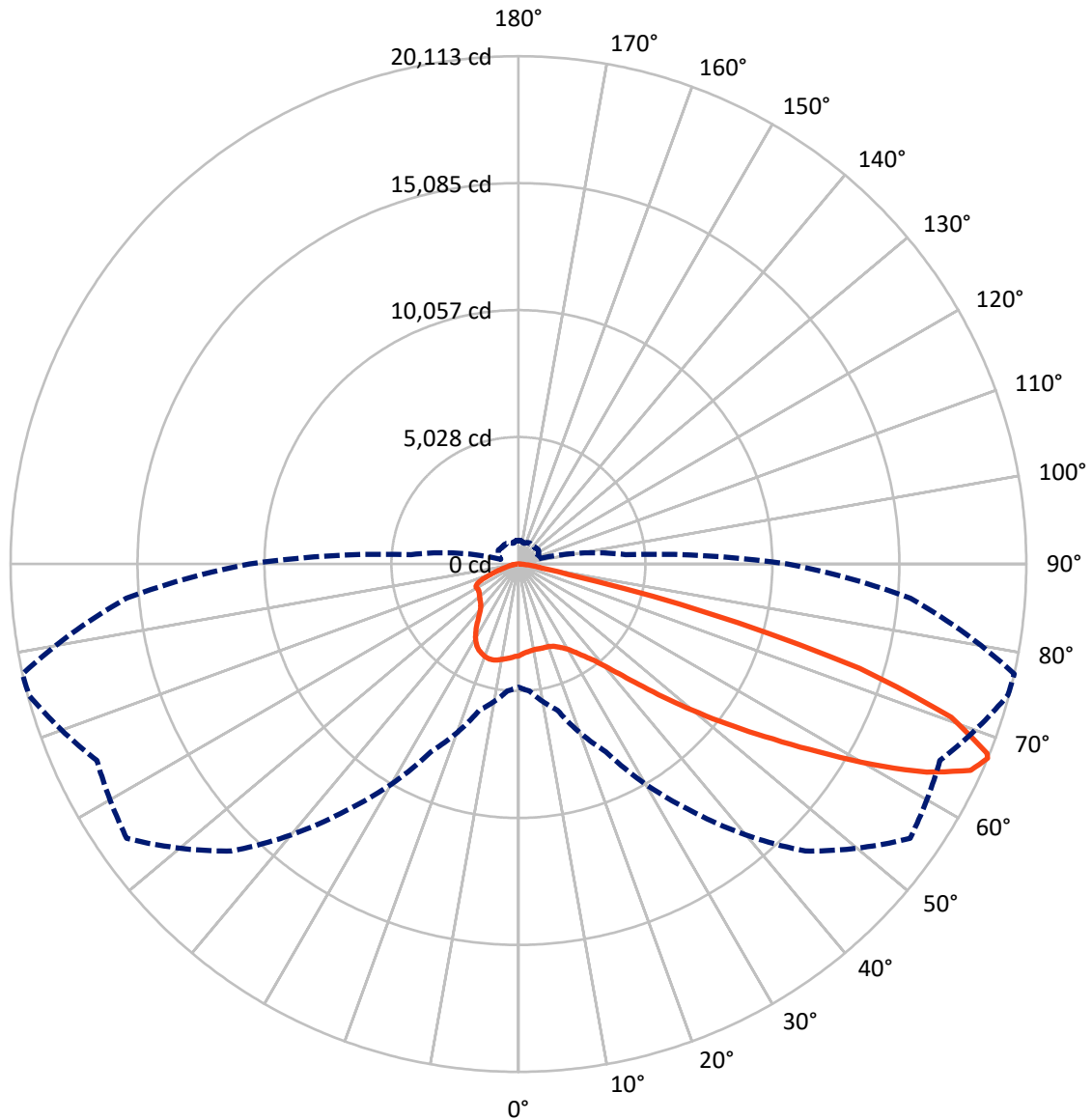
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7 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	4243.7	0.0	4243.7
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	20450.4	0.0	20450.4
	% Fixture	82.8	0.0	82.8
Total	Lumens	24694.1	0.0	24694.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	323.7	1.3
10°-20°	896.4	3.6
20°-30°	1523.1	6.2
30°-40°	2436.6	9.9
40°-50°	3751.1	15.2
50°-60°	5204.3	21.1
60°-70°	6942.2	28.1
70°-80°	3303.8	13.4
80°-90°	312.8	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°	24694.1	100.0
0°-180°	24694.1	100.0



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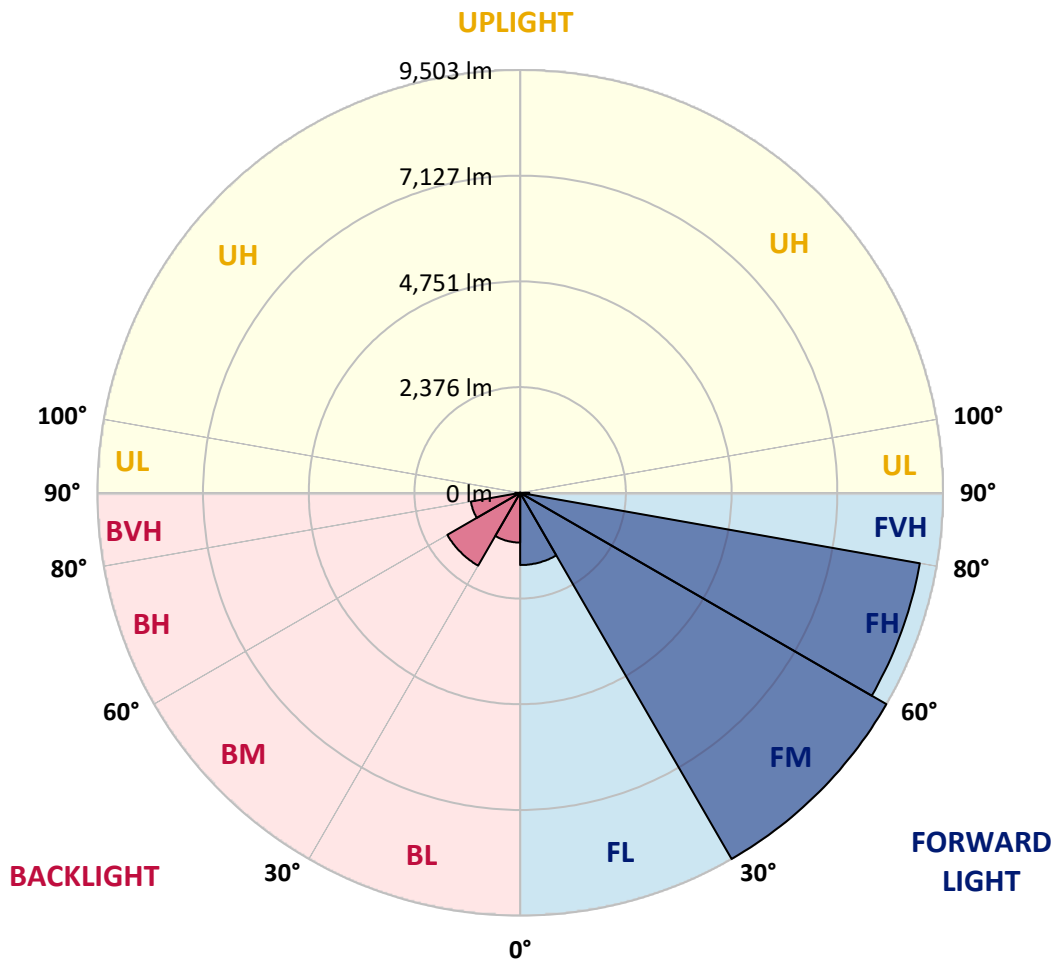
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1623.9	6.6			
FM	(30°-60°)	9502.5	38.5			
FH	(60°-80°)	9120.8	36.9			G4/12000
FVH	(80°-90°)	203.2	0.8			G2/225
BL	(0°-30°)	1119.3	4.5	B3/2500		
BM	(30°-60°)	1889.5	7.7	B2/2500		
BH	(60°-80°)	1125.2	4.6	B3/2500		G3/2500
BVH	(80°-90°)	109.6	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°	3634.3	3634.3	3634.3	3634.3	3634.3	3634.3	3634.3	3634.3	3634.3	3634.3	3634.3
2.5°	3258.8	3274.1	3275.6	3319.9	3339.7	3390.1	3445.0	3493.9	3536.6	3551.9	3579.4
5°	2932.2	2932.2	2936.8	2965.7	3022.2	3103.1	3217.6	3342.8	3474.0	3506.1	3587.0
7.5°	2761.3	2764.3	2767.3	2796.3	2840.6	2912.3	3026.8	3197.7	3416.0	3469.4	3611.4
10°	2776.5	2771.9	2756.6	2750.5	2768.8	2814.6	2913.9	3089.4	3367.2	3449.6	3655.7
12.5°	3016.2	3007.0	2956.6	2883.3	2816.2	2799.4	2868.0	3034.5	3344.3	3449.6	3730.5
15°	3426.7	3432.8	3333.6	3181.0	3005.4	2886.4	2877.3	3014.6	3336.7	3458.8	3817.4
17.5°	3961.0	3964.0	3826.7	3605.3	3313.7	3068.0	2939.9	3014.6	3336.7	3467.9	3901.4
20°	4528.8	4507.4	4351.7	4073.9	3695.4	3319.9	3054.3	3032.9	3345.9	3481.7	3980.8
22.5°	5015.7	4995.9	4832.5	4541.0	4107.5	3617.6	3208.5	3094.0	3396.2	3538.2	4092.2
25°	5441.6	5453.8	5295.0	4966.8	4518.1	3953.3	3439.0	3234.4	3501.6	3640.4	4229.6
27.5°	5959.0	5936.1	5753.0	5440.1	4940.9	4301.3	3727.4	3411.4	3626.7	3764.0	4397.5
30°	6557.3	6546.7	6299.3	5977.3	5406.4	4690.5	4012.8	3602.2	3790.0	3933.5	4608.2
32.5°	7283.9	7282.4	7016.7	6621.5	5929.9	5130.2	4350.2	3863.3	4028.1	4173.1	4887.5
35°	8106.6	8105.0	7830.4	7308.3	6532.9	5617.1	4747.0	4180.8	4322.7	4475.3	5220.2
37.5°	8677.5	8668.3	8524.9	8018.1	7199.9	6183.3	5243.1	4608.2	4657.0	4827.9	5621.6
40°	8787.4	8842.3	8966.0	8666.7	7928.0	6812.2	5740.7	5067.6	5113.4	5333.2	6126.9
42.5°	8668.3	8740.1	9150.7	9234.6	8656.1	7573.9	6363.5	5704.1	5762.1	6035.3	6720.7
45°	8564.6	8627.1	9141.5	9549.0	9375.0	8404.3	7140.4	6481.0	6590.9	6929.8	7398.4
47.5°	8387.5	8445.5	8961.4	9605.5	9785.6	9204.1	8076.1	7415.2	7604.4	8015.0	8170.7
50°	8378.3	8404.3	8715.6	9416.3	9927.5	9811.5	9112.4	8508.1	8798.1	9271.2	9025.5
52.5°	8146.3	8327.9	8610.3	9114.0	9930.6	10165.7	10133.7	9706.3	10153.5	10677.0	9962.7
55°	6726.7	6935.9	8259.2	8966.0	9912.3	10469.5	11066.3	10980.8	11679.8	12230.9	11012.9
57.5°	6281.0	6369.6	7245.8	9010.3	10064.9	10971.7	11998.9	12350.0	13426.0	14027.4	12272.1
60°	6159.0	6252.1	7042.7	9031.6	10478.6	11886.0	13264.3	13896.2	15479.0	16117.1	13702.3
62.5°	6023.1	6143.6	7058.0	9051.5	11205.2	13238.3	14943.3	15573.7	17587.0	18156.3	15042.5
65°	5626.2	5786.5	6775.6	8926.3	12000.4	14935.6	17162.7	17322.9	19328.6	19690.3	15851.4
67°	4873.7	5049.3	6000.2	8202.7	11927.1	16078.9	18937.8	18417.3	20068.9	20113.2	15589.0
67.5°	4635.6	4817.3	5737.6	7902.1	11718.0	16228.5	19252.2	18568.4	20062.7	20013.9	15344.7
70°	3121.4	3326.0	4063.3	5801.8	9399.5	15103.6	19175.9	18102.9	18747.0	18186.8	13183.4
72.5°	1549.3	1555.4	2027.1	3177.9	5695.0	10832.7	15996.5	15486.7	15196.7	14138.8	9674.3
75°	746.4	760.2	957.1	1404.3	2401.0	5592.7	10909.1	10449.6	8897.3	7703.6	4841.7
77.5°	569.4	583.1	743.4	914.3	1001.3	1824.0	5403.4	4367.0	2578.0	2059.1	1364.6
80°	439.6	465.5	627.4	702.2	662.5	731.1	1698.8	1337.1	1002.8	920.5	676.2
82.5°	343.4	358.7	532.8	532.8	457.9	490.0	790.6	772.3	622.8	561.7	363.2
85°	242.6	273.2	428.9	396.9	300.7	303.7	473.2	453.4	320.5	258.0	142.0
87.5°	108.3	138.9	305.2	259.5	160.3	123.7	193.8	166.3	126.6	97.7	65.7
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°	3634.3	3634.3	3634.3	3634.3	3634.3	3634.3	3634.3	3634.3	3634.3	3634.3	3634.3
2.5°	3609.9	3634.3	3672.5	3695.4	3725.9	3738.1	3750.3	3771.7	3788.5	3783.9	3776.2
5°	3643.4	3684.7	3732.0	3747.3	3747.3	3732.0	3722.8	3724.4	3719.8	3716.7	3707.6
7.5°	3692.3	3748.8	3782.4	3767.1	3719.8	3660.2	3603.8	3570.2	3538.2	3518.3	3524.4
10°	3761.0	3823.6	3825.1	3757.9	3645.0	3515.3	3403.9	3332.1	3263.4	3232.8	3242.0
12.5°	3860.2	3922.8	3869.4	3724.4	3525.9	3323.0	3118.4	2970.3	2837.6	2805.4	2796.3
15°	3967.1	4015.9	3896.8	3652.7	3355.0	3020.7	2677.3	2455.9	2307.9	2281.9	2272.8
17.5°	4060.2	4087.6	3883.1	3524.4	3084.8	2558.2	2158.3	2008.7	1978.2	1993.4	1993.4
20°	4142.6	4133.4	3823.6	3326.0	2659.0	2045.4	1813.4	1811.9	1853.1	1891.2	1894.2
22.5°	4246.4	4174.7	3729.0	3031.4	2150.7	1706.5	1666.8	1706.5	1752.3	1795.1	1799.6
25°	4370.0	4220.5	3602.2	2611.6	1729.4	1549.3	1566.0	1599.7	1628.6	1662.2	1663.7
27.5°	4493.6	4255.6	3423.7	2118.6	1500.5	1448.5	1466.8	1480.6	1488.2	1509.6	1509.6
30°	4637.1	4283.0	3165.7	1697.4	1395.1	1360.0	1349.3	1343.2	1349.3	1378.3	1379.9
32.5°	4817.3	4331.9	2813.1	1456.2	1346.3	1297.4	1242.5	1212.0	1233.3	1285.2	1294.3
35°	5021.8	4389.9	2390.3	1360.0	1329.4	1266.9	1166.2	1118.8	1126.5	1173.8	1181.4
37.5°	5278.2	4464.7	1973.6	1337.1	1346.3	1263.9	1131.1	1063.9	1030.3	1031.9	1030.3
40°	5606.4	4539.4	1643.9	1343.2	1382.9	1271.4	1114.3	1008.9	938.8	941.7	947.9
42.5°	5949.8	4588.3	1434.8	1361.5	1427.1	1282.2	1108.2	955.5	894.5	946.3	993.7
45°	6351.3	4574.5	1326.5	1378.3	1460.8	1286.8	1085.2	949.4	899.1	1054.8	1143.2
47.5°	6812.2	4515.0	1265.4	1386.0	1469.9	1285.2	1068.5	969.2	937.2	1207.4	1308.1
50°	7312.9	4421.9	1216.5	1373.7	1465.3	1279.1	1086.8	993.7	952.5	1240.9	1318.8
52.5°	7860.9	4336.5	1166.2	1346.3	1442.5	1260.8	1109.7	983.0	909.7	1143.2	1202.8
55°	8509.6	4316.6	1109.7	1298.9	1404.3	1240.9	1097.4	949.4	862.4	1013.5	1050.2
57.5°	9251.4	4440.2	1036.5	1240.9	1352.3	1201.3	1068.5	931.1	845.6	921.9	941.7
60°	10193.2	4713.5	958.6	1179.9	1288.3	1141.7	1042.5	935.7	850.2	908.2	912.8
62.5°	10928.9	4959.2	888.3	1105.1	1202.8	1070.0	1015.1	940.3	863.9	926.5	918.9
65°	11196.0	4838.7	801.4	993.7	1082.2	990.6	976.9	943.3	863.9	937.2	920.5
67°	10648.0	4263.1	718.9	882.3	967.7	920.5	940.3	931.1	848.6	935.7	906.6
67.5°	10387.0	4060.2	697.6	863.9	937.2	899.1	931.1	925.0	844.1	932.6	899.1
70°	8566.1	2912.3	589.2	725.1	784.6	792.2	874.6	885.3	807.4	876.2	815.1
72.5°	6094.8	1822.5	508.3	561.7	633.4	677.7	798.3	831.9	758.6	761.7	711.3
75°	3016.2	978.5	453.4	433.5	493.1	564.8	696.0	758.6	686.9	634.9	618.2
77.5°	1018.1	554.0	383.1	349.5	383.1	453.4	576.9	662.5	606.0	537.3	526.6
80°	526.6	402.9	299.2	280.9	302.2	351.1	451.8	551.1	517.4	520.5	428.9
82.5°	328.2	245.7	215.2	213.7	228.9	268.6	332.8	447.2	444.2	380.0	276.3
85°	152.6	142.0	137.4	142.0	146.5	152.6	216.8	319.1	337.4	204.5	181.7
87.5°	64.1	62.6	54.9	59.5	65.7	64.1	87.1	135.8	189.2	128.2	117.5
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)