

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: P195851

Luminaire Tested: **NAV-AF-05-D-UNV-T3R-7050-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195851
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-7050-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 24711 lumens
Efficiency: N/A
Efficacy: 117.7 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

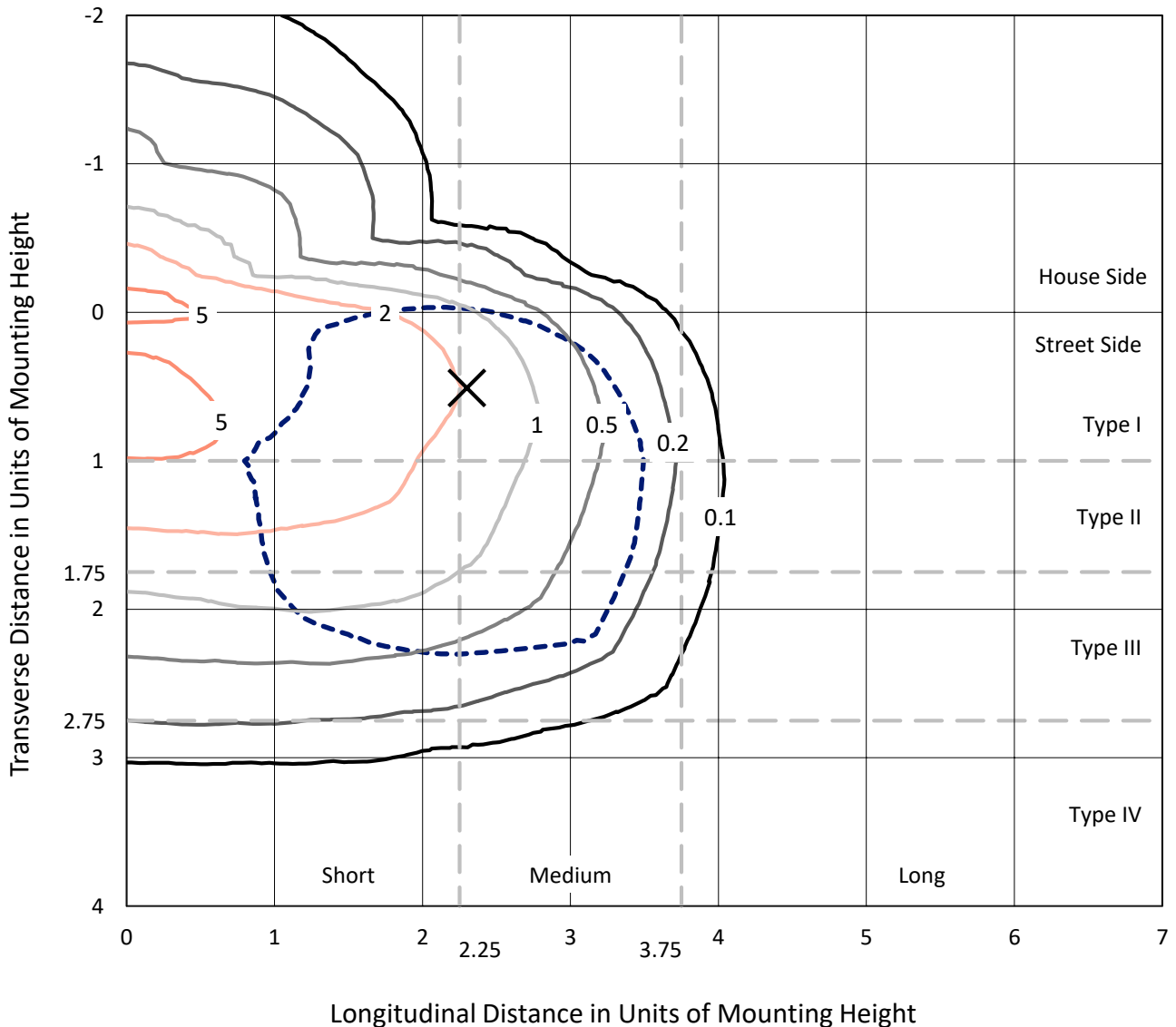
Input Watts (W): 210
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

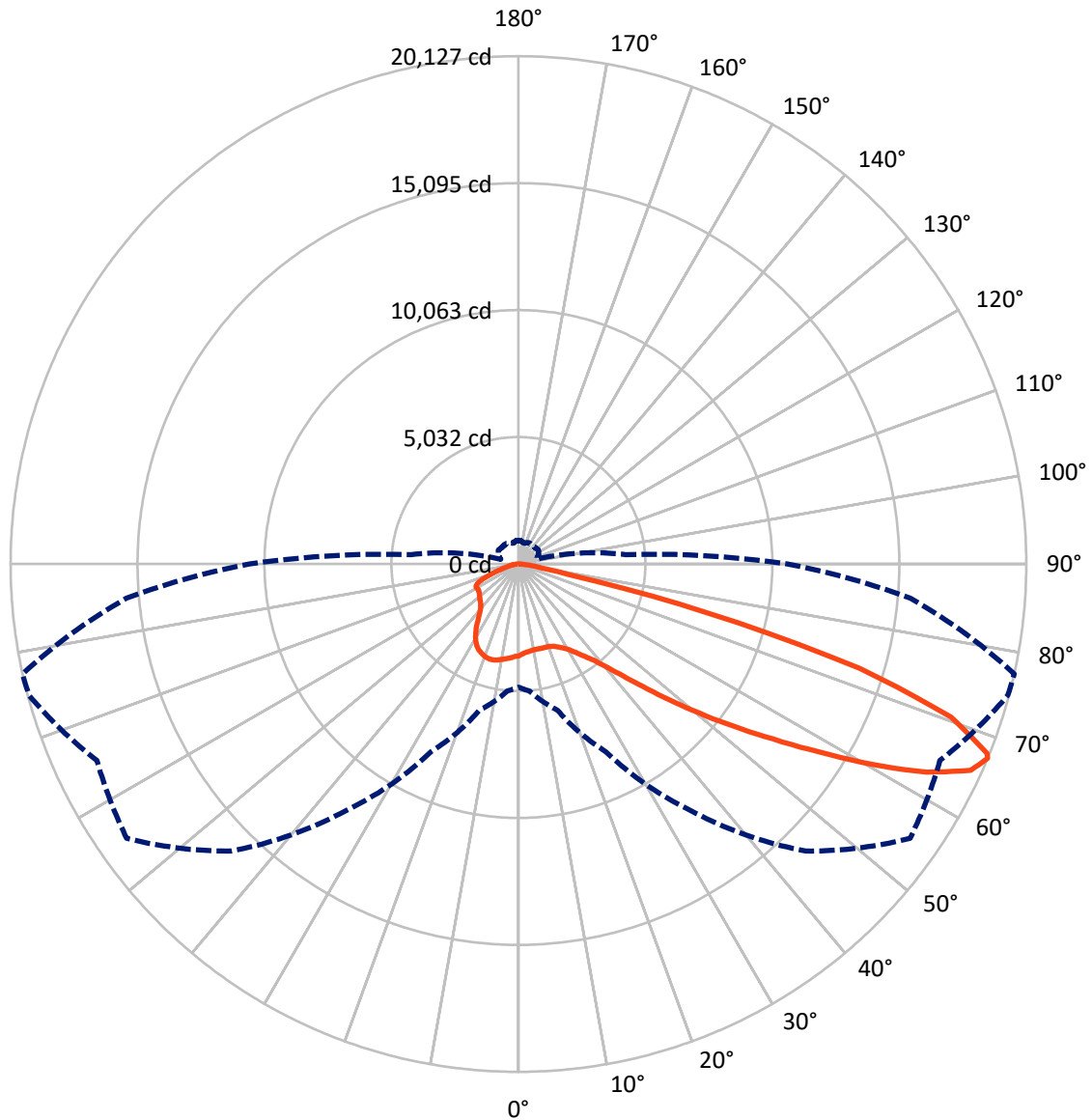


Based on 25 foot mounting height. Maximum calculated value = 7 fc
 Type III - Medium - Full Cutoff

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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	4246.6	0.0	4246.6
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	20464.4	0.0	20464.4
	% Fixture	82.8	0.0	82.8
Total	Lumens	24711.0	0.0	24711.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	323.9	1.3
10°-20°	897.0	3.6
20°-30°	1524.1	6.2
30°-40°	2438.3	9.9
40°-50°	3753.7	15.2
50°-60°	5207.9	21.1
60°-70°	6947.0	28.1
70°-80°	3306.1	13.4
80°-90°	313.0	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°	24711.0	100.0
0°-180°	24711.0	100.0

Coefficient of Utilization



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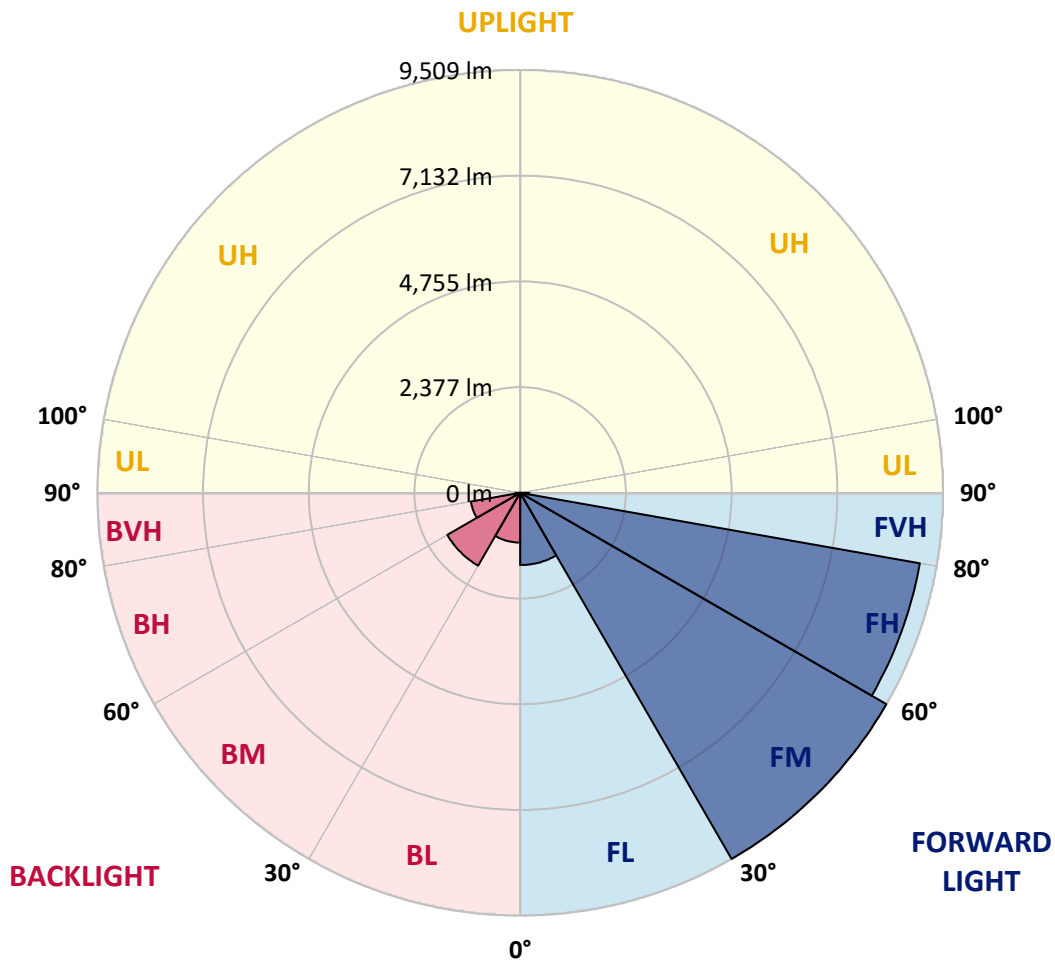
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1625.0	6.6			
FM	(30°-60°)	9509.0	38.5			
FH	(60°-80°)	9127.1	36.9			G4/12000
FVH	(80°-90°)	203.3	0.8			G2/225
BL	(0°-30°)	1120.1	4.5	B3/2500		
BM	(30°-60°)	1890.8	7.7	B2/2500		
BH	(60°-80°)	1126.0	4.6	B3/2500		G3/2500
BVH	(80°-90°)	109.7	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°	3636.8	3636.8	3636.8	3636.8	3636.8	3636.8	3636.8	3636.8	3636.8	3636.8	3636.8
2.5°	3261.1	3276.3	3277.9	3322.2	3342.0	3392.4	3447.4	3496.3	3539.1	3554.3	3581.8
5°	2934.2	2934.2	2938.8	2967.8	3024.3	3105.3	3219.8	3345.1	3476.4	3508.5	3589.5
7.5°	2763.1	2766.2	2769.2	2798.3	2842.5	2914.3	3028.9	3200.0	3418.4	3471.8	3613.9
10°	2778.4	2773.8	2758.5	2752.4	2770.8	2816.6	2915.9	3091.5	3369.5	3452.0	3658.2
12.5°	3018.2	3009.0	2958.6	2885.3	2818.1	2801.3	2870.0	3036.5	3346.6	3452.0	3733.0
15°	3429.1	3435.2	3335.9	3183.2	3007.5	2888.4	2879.2	3016.7	3339.0	3461.2	3820.1
17.5°	3963.7	3966.7	3829.3	3607.8	3316.0	3070.1	2941.8	3016.7	3339.0	3470.3	3904.1
20°	4531.9	4510.5	4354.7	4076.7	3697.9	3322.2	3056.4	3035.0	3348.1	3484.1	3983.5
22.5°	5019.1	4999.3	4835.8	4544.1	4110.3	3620.0	3210.7	3096.1	3398.5	3540.6	4095.0
25°	5445.3	5457.5	5298.7	4970.3	4521.2	3956.0	3441.3	3236.6	3503.9	3642.9	4232.5
27.5°	5963.1	5940.2	5756.9	5443.8	4944.3	4304.3	3730.0	3413.8	3629.2	3766.6	4400.5
30°	6561.8	6551.1	6303.7	5981.4	5410.2	4693.8	4015.6	3604.7	3792.6	3936.2	4611.3
32.5°	7288.9	7287.4	7021.6	6626.0	5934.1	5133.7	4353.2	3865.9	4030.9	4176.0	4890.8
35°	8112.2	8110.7	7835.7	7313.3	6537.4	5620.9	4750.3	4183.6	4325.7	4478.4	5223.8
37.5°	8683.4	8674.3	8530.7	8023.6	7204.9	6187.6	5246.7	4611.3	4660.2	4831.3	5625.5
40°	8793.4	8848.4	8972.1	8672.7	7933.5	6816.9	5744.7	5071.1	5116.9	5336.8	6131.1
42.5°	8674.3	8746.1	9156.9	9240.9	8662.1	7579.1	6367.9	5708.0	5766.0	6039.5	6725.3
45°	8570.4	8633.0	9147.8	9555.6	9381.5	8410.0	7145.3	6485.5	6595.4	6934.5	7403.5
47.5°	8393.2	8451.3	8967.5	9612.1	9792.4	9210.4	8081.6	7420.3	7609.7	8020.5	8176.3
50°	8384.1	8410.0	8721.6	9422.7	9934.4	9818.3	9118.8	8513.9	8804.1	9277.6	9031.7
52.5°	8151.9	8333.7	8616.2	9120.3	9937.5	10172.7	10140.6	9712.9	10160.5	10684.4	9969.5
55°	6731.4	6940.6	8264.9	8972.1	9919.1	10476.6	11073.9	10988.3	11687.9	12239.3	11020.4
57.5°	6285.4	6374.0	7250.7	9016.4	10071.9	10979.2	12007.1	12358.4	13435.3	14037.1	12280.5
60°	6163.2	6256.4	7047.6	9037.8	10485.8	11894.1	13273.4	13905.7	15489.7	16128.1	13711.7
62.5°	6027.2	6147.9	7062.8	9057.7	11212.9	13247.4	14953.5	15584.4	17599.0	18168.8	15052.8
65°	5630.1	5790.5	6780.3	8932.4	12008.7	14945.9	17174.4	17334.8	19341.8	19703.8	15862.4
67°	4877.1	5052.7	6004.3	8208.4	11935.3	16089.9	18950.8	18430.0	20082.6	20126.9	15599.6
67.5°	4638.8	4820.6	5741.6	7907.5	11726.1	16239.6	19265.5	18581.2	20076.5	20027.7	15355.3
70°	3123.6	3328.3	4066.0	5805.8	9405.9	15113.9	19189.1	18115.3	18759.9	18199.3	13192.4
72.5°	1550.3	1556.5	2028.4	3180.1	5698.8	10840.2	16007.5	15497.3	15207.1	14148.6	9680.8
75°	746.9	760.7	957.7	1405.2	2402.6	5596.5	10916.5	10456.8	8903.4	7708.9	4845.0
77.5°	569.7	583.5	743.9	914.9	1002.0	1825.3	5407.1	4370.0	2579.8	2060.5	1365.5
80°	439.9	465.9	627.8	702.6	662.9	731.6	1700.0	1338.0	1003.5	921.0	676.7
82.5°	343.7	358.9	533.1	533.1	458.2	490.3	791.2	772.9	623.2	562.1	363.5
85°	242.9	273.4	429.2	397.1	300.9	304.0	473.5	453.6	320.8	258.1	142.1
87.5°	108.4	139.0	305.5	259.7	160.4	123.7	194.0	166.5	126.8	97.8	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°	3636.8	3636.8	3636.8	3636.8	3636.8	3636.8	3636.8	3636.8	3636.8	3636.8	3636.8
2.5°	3612.4	3636.8	3675.0	3697.9	3728.5	3740.7	3752.9	3774.3	3791.1	3786.5	3778.9
5°	3646.0	3687.2	3734.6	3749.8	3749.8	3734.6	3725.4	3726.9	3722.3	3719.3	3710.1
7.5°	3694.9	3751.4	3785.0	3769.7	3722.3	3662.8	3606.3	3572.7	3540.6	3520.7	3526.8
10°	3763.6	3826.2	3827.7	3760.5	3647.5	3517.7	3406.2	3334.4	3265.6	3235.1	3244.3
12.5°	3862.9	3925.5	3872.0	3726.9	3528.4	3325.2	3120.5	2972.4	2839.5	2807.4	2798.3
15°	3969.8	4018.7	3899.5	3655.1	3357.3	3022.8	2679.1	2457.6	2309.5	2283.5	2274.3
17.5°	4063.0	4090.5	3885.8	3526.8	3086.9	2560.0	2159.8	2010.1	1979.5	1994.8	1994.8
20°	4145.4	4136.3	3826.2	3328.3	2660.8	2046.8	1814.6	1813.1	1854.3	1892.5	1895.5
22.5°	4249.3	4177.5	3731.5	3033.5	2152.1	1707.7	1668.0	1707.7	1753.5	1796.3	1800.8
25°	4373.0	4223.3	3604.7	2613.4	1730.6	1550.3	1567.1	1600.7	1629.8	1663.4	1664.9
27.5°	4496.8	4258.5	3426.0	2120.1	1501.5	1449.5	1467.9	1481.6	1489.2	1510.6	1510.6
30°	4640.3	4286.0	3167.9	1698.5	1396.1	1360.9	1350.2	1344.1	1350.2	1379.3	1380.8
32.5°	4820.6	4334.8	2815.1	1457.2	1347.2	1298.3	1243.3	1212.8	1234.2	1286.1	1295.3
35°	5025.2	4392.9	2392.0	1360.9	1330.4	1267.8	1167.0	1119.6	1127.2	1174.6	1182.2
37.5°	5281.9	4467.7	1975.0	1338.0	1347.2	1264.7	1131.8	1064.6	1031.0	1032.5	1031.0
40°	5610.2	4542.6	1645.0	1344.1	1383.9	1272.3	1115.0	1009.6	939.4	942.4	948.5
42.5°	5953.9	4591.5	1435.8	1362.5	1428.1	1283.0	1108.9	956.2	895.1	947.0	994.4
45°	6355.6	4577.7	1327.3	1379.3	1461.8	1287.6	1086.0	950.1	899.7	1055.5	1144.0
47.5°	6816.9	4518.1	1266.2	1386.9	1470.9	1286.1	1069.2	969.9	937.8	1208.2	1309.0
50°	7317.9	4425.0	1217.4	1374.7	1466.3	1280.0	1087.5	994.4	953.1	1241.8	1319.7
52.5°	7866.3	4339.4	1167.0	1347.2	1443.4	1261.7	1110.4	983.7	910.3	1144.0	1203.6
55°	8515.4	4319.6	1110.4	1299.8	1405.2	1241.8	1098.2	950.1	863.0	1014.2	1050.9
57.5°	9257.8	4443.3	1037.1	1241.8	1353.3	1202.1	1069.2	931.7	846.2	922.6	942.4
60°	10200.2	4716.7	959.2	1180.7	1289.2	1142.5	1043.2	936.3	850.8	908.8	913.4
62.5°	10936.4	4962.6	889.0	1105.9	1203.6	1070.7	1015.7	940.9	864.5	927.1	919.5
65°	11203.7	4842.0	801.9	994.4	1082.9	991.3	977.6	944.0	864.5	937.8	921.0
67°	10655.3	4266.1	719.4	882.9	968.4	921.0	940.9	931.7	849.3	936.3	907.3
67.5°	10394.2	4063.0	698.0	864.5	937.8	899.7	931.7	925.6	844.7	933.3	899.7
70°	8571.9	2914.3	589.6	725.5	785.1	792.7	875.2	885.9	808.0	876.7	815.6
72.5°	6099.0	1823.8	508.6	562.1	633.9	678.2	798.8	832.4	759.1	762.2	711.8
75°	3018.2	979.1	453.6	433.8	493.4	565.1	696.5	759.1	687.3	635.4	618.6
77.5°	1018.8	554.5	383.4	349.8	383.4	453.6	577.4	662.9	606.4	537.7	527.0
80°	527.0	403.2	299.4	281.0	302.4	351.3	452.1	551.4	517.8	520.9	429.2
82.5°	328.4	245.9	215.4	213.8	229.1	268.8	333.0	447.5	444.5	380.3	276.5
85°	152.7	142.1	137.5	142.1	146.6	152.7	216.9	319.2	337.6	204.7	181.8
87.5°	64.2	62.6	55.0	59.6	65.7	64.2	87.1	135.9	189.4	128.3	117.6
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)