

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: P196822

Luminaire Tested: **NAV-AF-04-D-UNV-T3R-7030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196822
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-7030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 3000K, 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: 26327.1 lumens
Efficiency: N/A
Efficacy: 102.0 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

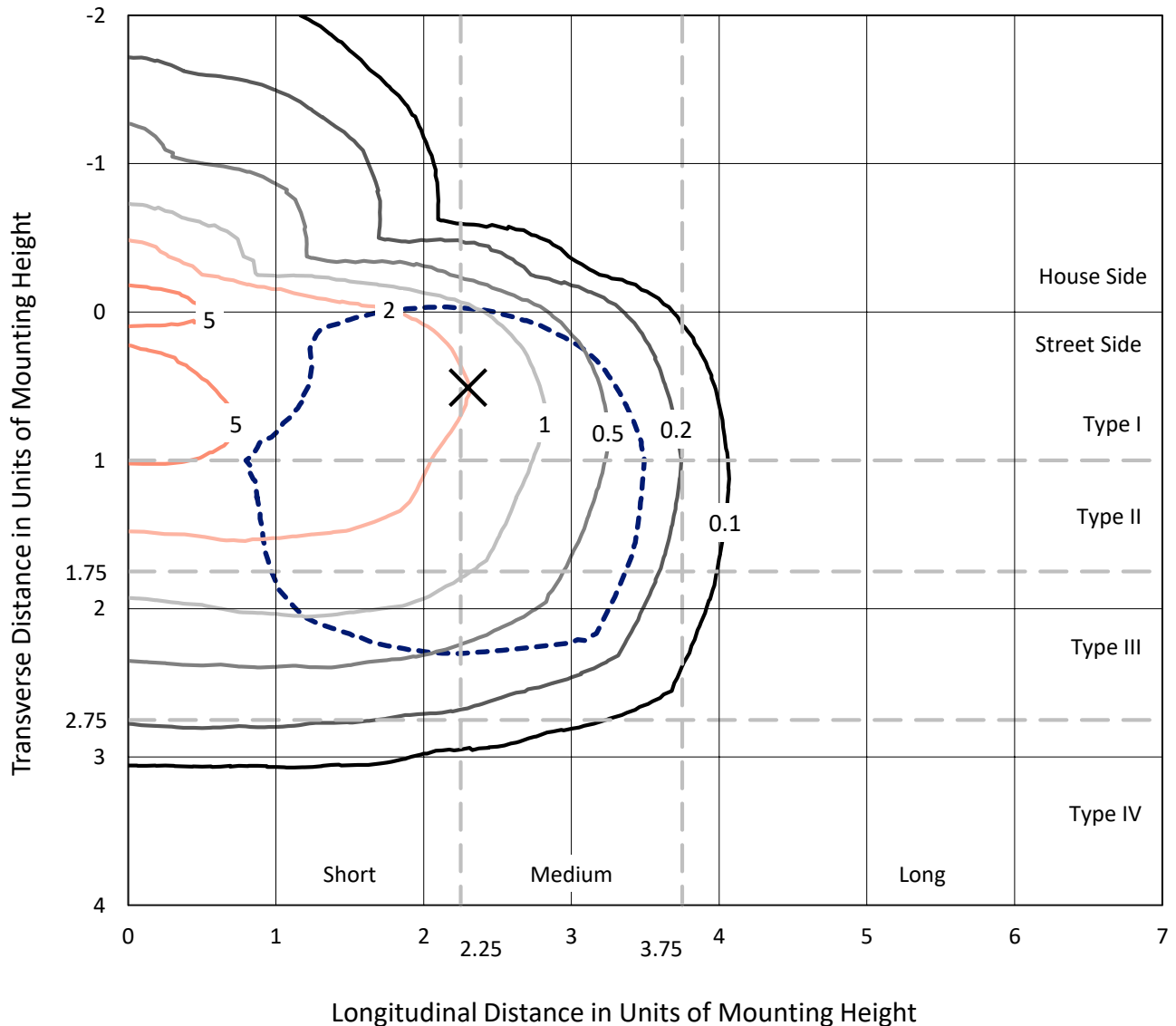
Input Watts (W): 258
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

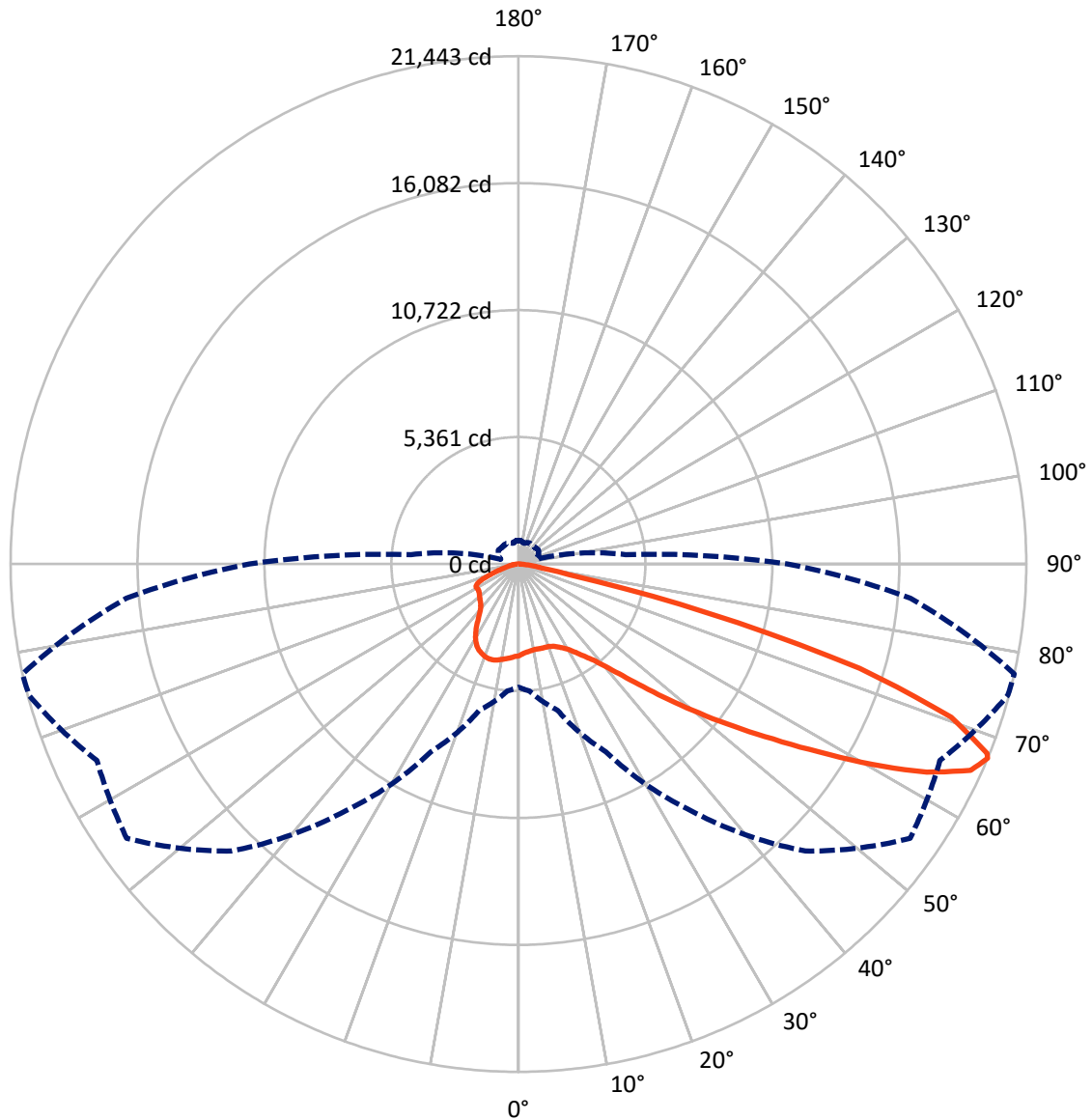
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.5 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	4524.3	0.0	4524.3
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	21802.8	0.0	21802.8
	% Fixture	82.8	0.0	82.8
Total	Lumens	26327.1	0.0	26327.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	345.1	1.3
10°-20°	955.7	3.6
20°-30°	1623.8	6.2
30°-40°	2597.7	9.9
40°-50°	3999.2	15.2
50°-60°	5548.5	21.1
60°-70°	7401.3	28.1
70°-80°	3522.3	13.4
80°-90°	333.5	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°	26327.1	100.0
0°-180°	26327.1	100.0



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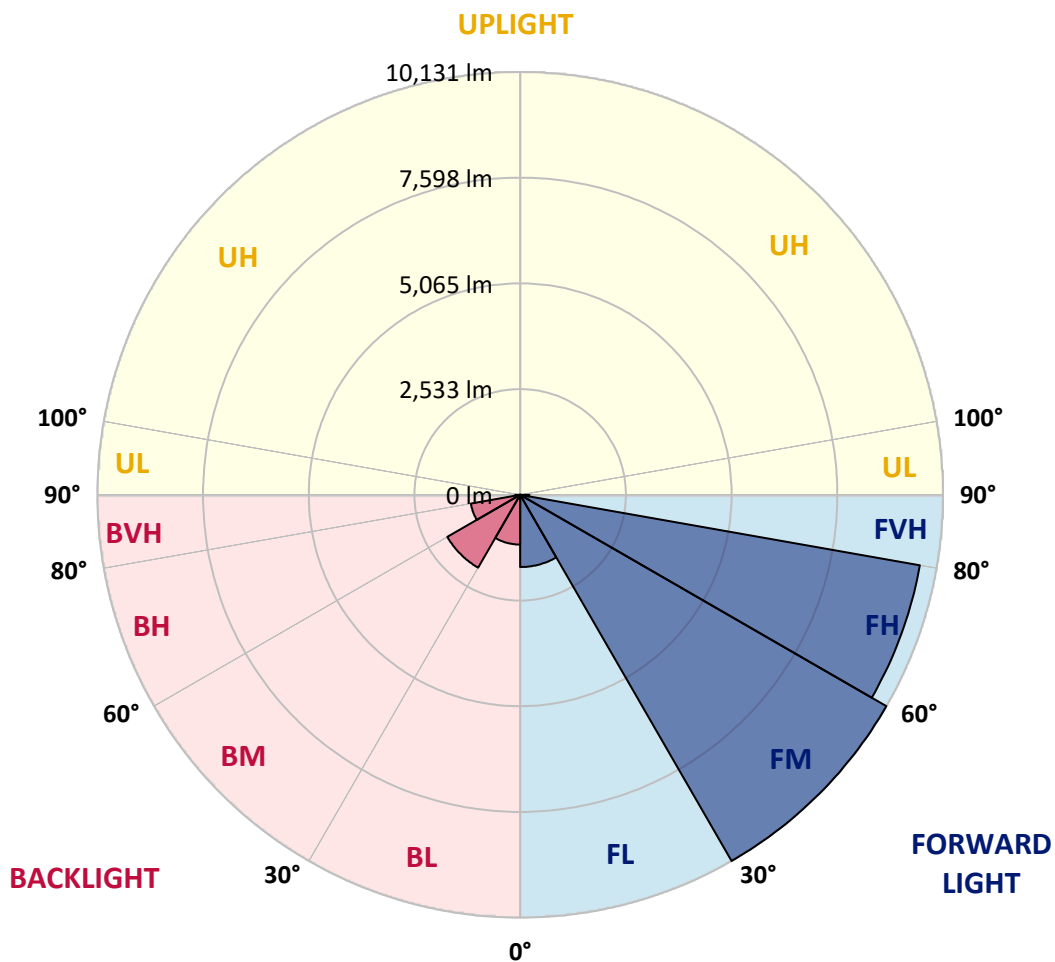
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1731.3	6.6			
FM	(30°-60°)	10130.9	38.5			
FH	(60°-80°)	9724.0	36.9			G4/12000
FVH	(80°-90°)	216.6	0.8			G2/225
BL	(0°-30°)	1193.3	4.5	B3/2500		
BM	(30°-60°)	2014.5	7.7	B2/2500		
BH	(60°-80°)	1199.6	4.6	B3/2500		G3/2500
BVH	(80°-90°)	116.9	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°	3874.7	3874.7	3874.7	3874.7	3874.7	3874.7	3874.7	3874.7	3874.7	3874.7	3874.7
2.5°	3474.3	3490.7	3492.3	3539.5	3560.5	3614.3	3672.9	3724.9	3770.5	3786.8	3816.1
5°	3126.1	3126.1	3131.0	3161.9	3222.0	3308.4	3430.4	3563.8	3703.8	3738.0	3824.2
7.5°	2943.9	2947.0	2950.3	2981.2	3028.4	3104.9	3227.0	3409.2	3641.9	3698.9	3850.3
10°	2960.1	2955.3	2939.0	2932.4	2951.9	3000.8	3106.6	3293.7	3589.9	3677.7	3897.4
12.5°	3215.6	3205.7	3152.1	3074.0	3002.5	2984.5	3057.7	3235.1	3565.4	3677.7	3977.1
15°	3653.3	3659.8	3554.1	3391.3	3204.2	3077.3	3067.5	3214.0	3557.4	3687.5	4069.9
17.5°	4222.9	4226.1	4079.7	3843.7	3532.9	3270.9	3134.2	3214.0	3557.4	3697.4	4159.4
20°	4828.2	4805.4	4639.4	4343.3	3939.8	3539.5	3256.3	3233.5	3567.1	3712.0	4244.0
22.5°	5347.3	5326.3	5152.1	4841.3	4379.1	3856.8	3420.7	3298.5	3620.8	3772.1	4362.8
25°	5801.4	5814.4	5645.2	5295.4	4816.9	4214.7	3666.4	3448.3	3733.1	3881.2	4509.3
27.5°	6353.1	6328.7	6133.4	5799.8	5267.6	4585.8	3974.0	3637.0	3866.5	4013.0	4688.4
30°	6991.0	6979.6	6715.9	6372.6	5764.0	5000.8	4278.3	3840.5	4040.6	4193.6	4912.9
32.5°	7765.6	7764.0	7480.8	7059.4	6322.2	5469.4	4637.8	4118.7	4294.6	4449.1	5210.7
35°	8642.7	8641.1	8348.2	7791.6	6964.9	5988.5	5061.0	4457.2	4608.5	4771.4	5565.4
37.5°	9251.3	9241.5	9088.6	8548.3	7676.1	6592.2	5589.8	4912.9	4965.0	5147.2	5993.4
40°	9368.6	9427.1	9558.9	9239.9	8452.3	7262.8	6120.3	5402.8	5451.5	5685.9	6532.1
42.5°	9241.5	9318.0	9755.8	9845.4	9228.6	8074.8	6784.4	6081.3	6143.1	6434.4	7165.1
45°	9130.9	9197.7	9746.0	10180.6	9995.0	8960.1	7612.6	6909.7	7026.8	7388.0	7887.7
47.5°	8942.1	9003.9	9554.0	10240.8	10432.7	9812.8	8610.1	7905.6	8107.4	8545.0	8711.0
50°	8932.4	8960.1	9292.1	10039.0	10584.2	10460.5	9715.2	9070.7	9379.9	9884.3	9622.4
52.5°	8685.0	8878.7	9179.8	9716.8	10587.3	10838.0	10803.8	10348.2	10825.0	11383.1	10621.5
55°	7171.7	7394.5	8805.4	9558.9	10567.9	11161.8	11798.2	11707.0	12452.3	13039.8	11741.1
57.5°	6696.4	6790.8	7724.9	9606.1	10730.6	11697.2	12792.4	13166.8	14313.9	14955.1	13083.7
60°	6566.3	6665.5	7508.6	9628.9	11171.5	12672.0	14141.4	14815.1	16502.7	17182.8	14608.5
62.5°	6421.3	6550.0	7524.8	9650.0	11946.2	14113.8	15931.5	16603.6	18750.0	19357.0	16037.3
65°	5998.4	6169.3	7223.6	9516.6	12794.0	15923.3	18297.6	18468.5	20606.9	20992.5	16899.7
67°	5196.1	5383.2	6397.0	8745.2	12715.9	17142.2	20190.2	19635.3	21396.0	21443.2	16619.9
67.5°	4942.3	5135.8	6117.1	8424.7	12492.9	17301.8	20525.5	19796.3	21389.5	21337.5	16359.5
70°	3327.9	3545.9	4331.9	6185.5	10021.0	16102.4	20444.0	19300.1	19986.8	19389.5	14055.2
72.5°	1651.8	1658.2	2161.0	3388.1	6071.5	11549.1	17054.4	16510.8	16201.6	15074.0	10314.0
75°	795.7	810.3	1020.4	1497.2	2559.8	5962.5	11630.5	11140.6	9485.7	8213.1	5161.9
77.5°	607.1	621.6	792.4	974.8	1067.6	1944.7	5760.7	4655.7	2748.5	2195.2	1454.8
80°	468.7	496.4	668.7	748.5	706.3	779.4	1811.2	1425.5	1069.1	981.2	720.9
82.5°	366.1	382.4	567.9	567.9	488.2	522.4	842.9	823.4	664.0	598.8	387.4
85°	258.7	291.2	457.2	423.1	320.5	323.9	504.4	483.4	341.8	275.0	151.4
87.5°	115.5	148.0	325.5	276.7	170.9	131.7	206.7	177.3	135.1	104.2	69.9
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°	3874.7	3874.7	3874.7	3874.7	3874.7	3874.7	3874.7	3874.7	3874.7	3874.7	3874.7
2.5°	3848.6	3874.7	3915.3	3939.8	3972.3	3985.3	3998.4	4021.1	4039.0	4034.2	4025.9
5°	3884.3	3928.3	3978.7	3995.1	3995.1	3978.7	3969.1	3970.7	3965.8	3962.5	3952.8
7.5°	3936.5	3996.7	4032.5	4016.3	3965.8	3902.3	3842.1	3806.3	3772.1	3751.0	3757.5
10°	4009.7	4076.5	4078.1	4006.4	3886.1	3747.7	3628.9	3552.4	3479.3	3446.7	3456.4
12.5°	4115.5	4182.2	4125.3	3970.7	3759.1	3542.7	3324.6	3166.8	3025.2	2991.0	2981.2
15°	4229.4	4281.6	4154.6	3894.2	3576.8	3220.5	2854.3	2618.4	2460.5	2432.8	2423.1
17.5°	4328.7	4358.1	4140.0	3757.5	3288.8	2727.4	2301.0	2141.6	2109.0	2125.3	2125.3
20°	4416.6	4406.8	4076.5	3545.9	2834.8	2180.6	1933.3	1931.6	1975.6	2016.3	2019.5
22.5°	4527.2	4450.7	3975.5	3231.9	2293.0	1819.3	1777.0	1819.3	1868.2	1913.7	1918.6
25°	4659.1	4499.6	3840.5	2784.4	1843.7	1651.8	1669.6	1705.4	1736.3	1772.1	1773.9
27.5°	4790.8	4537.0	3650.2	2258.7	1599.7	1544.4	1563.8	1578.5	1586.7	1609.4	1609.4
30°	4943.8	4566.3	3375.0	1809.6	1487.3	1450.0	1438.5	1432.1	1438.5	1469.4	1471.0
32.5°	5135.8	4618.4	2999.1	1552.5	1435.3	1383.2	1324.7	1292.1	1314.8	1370.2	1380.0
35°	5353.9	4680.2	2548.4	1450.0	1417.4	1350.7	1243.3	1192.8	1201.0	1251.4	1259.5
37.5°	5627.3	4759.9	2104.2	1425.5	1435.3	1347.3	1205.9	1134.2	1098.5	1100.0	1098.5
40°	5977.1	4839.6	1752.6	1432.1	1474.4	1355.6	1187.9	1075.6	1000.9	1004.1	1010.5
42.5°	6343.3	4891.7	1529.7	1451.6	1521.6	1367.0	1181.4	1018.8	953.7	1008.9	1059.4
45°	6771.4	4877.2	1414.2	1469.4	1557.4	1371.9	1157.0	1012.2	958.5	1124.5	1218.9
47.5°	7262.8	4813.6	1349.1	1477.6	1567.1	1370.2	1139.1	1033.4	999.1	1287.2	1394.5
50°	7796.5	4714.3	1297.0	1464.6	1562.2	1363.7	1158.7	1059.4	1015.4	1323.0	1406.0
52.5°	8380.7	4623.2	1243.3	1435.3	1537.9	1344.2	1183.1	1048.1	969.9	1218.9	1282.3
55°	9072.4	4602.1	1183.1	1384.9	1497.2	1323.0	1170.0	1012.2	919.4	1080.6	1119.6
57.5°	9863.2	4733.8	1104.9	1323.0	1441.7	1280.7	1139.1	992.6	901.5	982.9	1004.1
60°	10867.3	5025.2	1022.0	1257.9	1373.5	1217.2	1111.5	997.5	906.5	968.2	973.2
62.5°	11651.6	5287.2	947.1	1178.2	1282.3	1140.7	1082.2	1002.5	921.0	987.8	979.6
65°	11936.5	5158.5	854.3	1059.4	1153.8	1056.1	1041.5	1005.7	921.0	999.1	981.2
67°	11352.2	4545.0	766.5	940.6	1031.7	981.2	1002.5	992.6	904.7	997.5	966.6
67.5°	11074.0	4328.7	743.7	921.0	999.1	958.5	992.6	986.2	899.9	994.3	958.5
70°	9132.6	3104.9	628.1	773.0	836.5	844.6	932.4	943.9	860.9	934.0	868.9
72.5°	6497.8	1943.0	541.9	598.8	675.3	722.5	851.1	886.8	808.7	812.1	758.4
75°	3215.6	1043.1	483.4	462.1	525.6	602.1	742.1	808.7	732.2	677.0	659.1
77.5°	1085.4	590.8	408.4	372.7	408.4	483.4	615.1	706.3	646.0	572.8	561.4
80°	561.4	429.6	318.9	299.5	322.2	374.3	481.8	587.5	551.6	554.9	457.2
82.5°	349.8	262.0	229.5	227.8	244.0	286.4	354.8	476.8	473.5	405.3	294.6
85°	162.7	151.4	146.4	151.4	156.2	162.7	231.1	340.2	359.7	218.1	193.6
87.5°	68.4	66.7	58.6	63.5	69.9	68.4	92.8	144.9	201.8	136.7	125.3
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)