

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: P270617

Luminaire Tested: **NAV-AF-05-D-UNV-T2-7027**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270617
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24136)
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-T2-7027
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 2700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 25571.5 lumens
Efficiency: N/A
Efficacy: 91.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B3 - U0 - G4

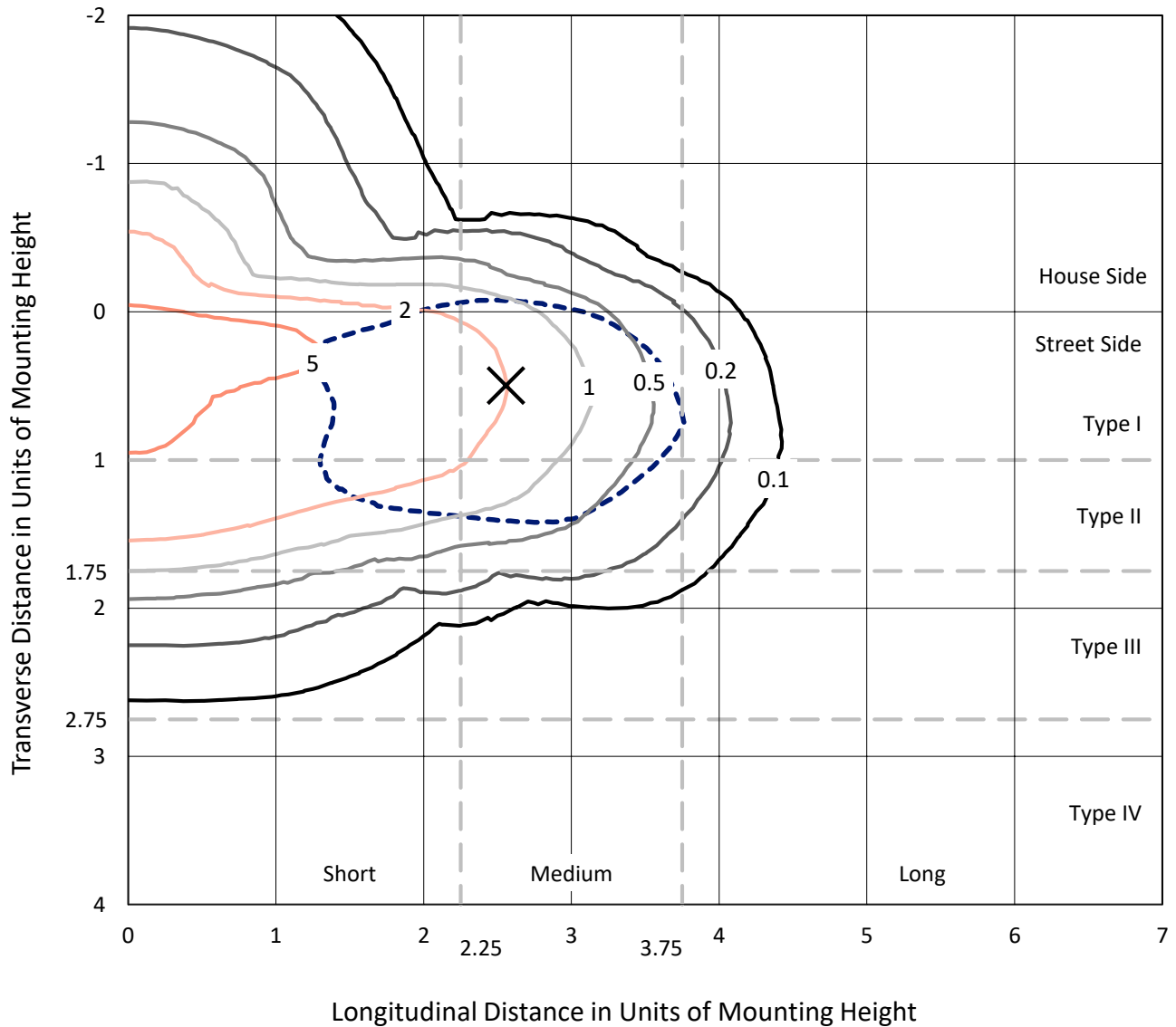
Input Watts (W): 279
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

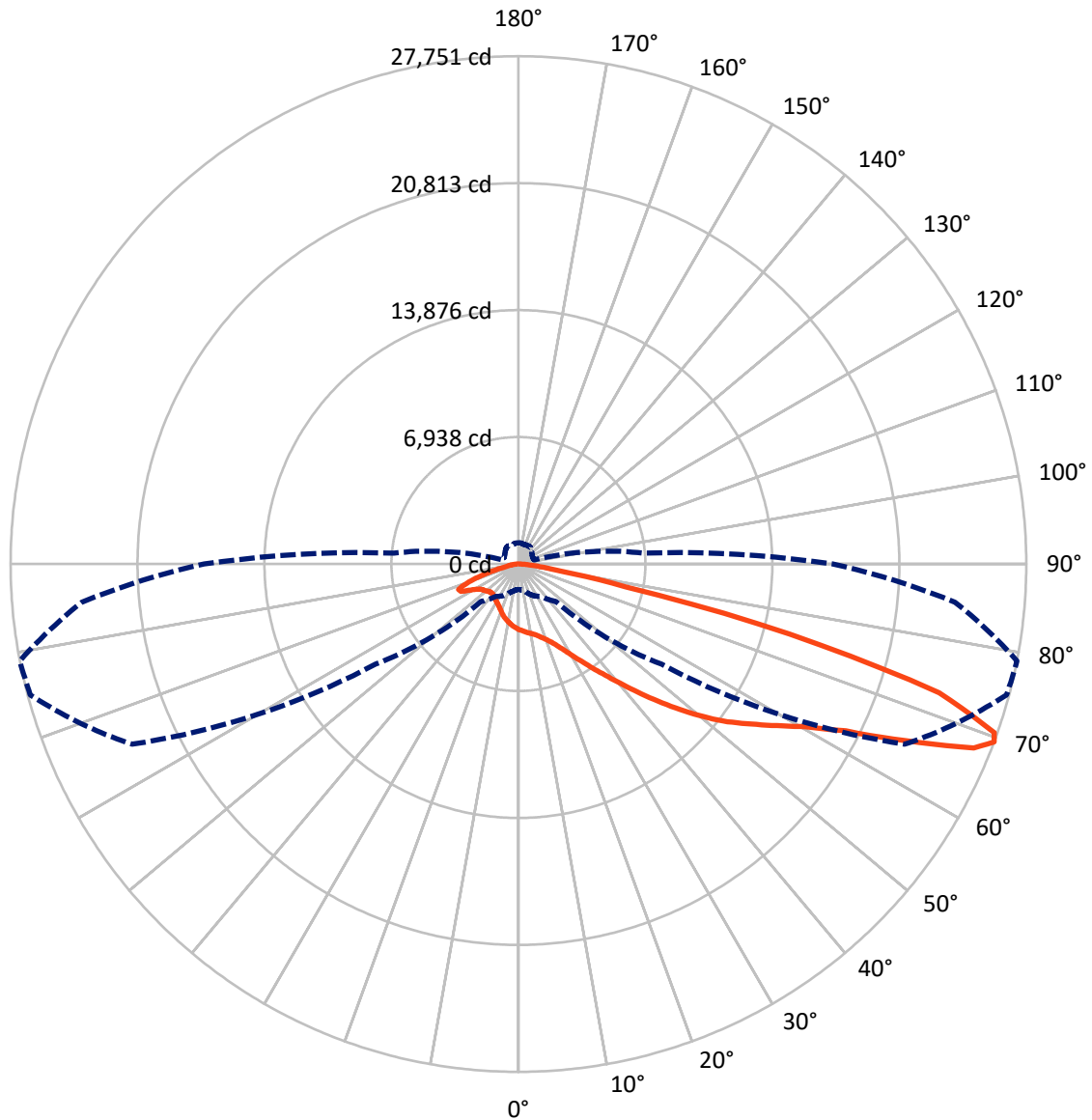
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.9 fc
 Type II - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4810.5	0.0	4810.5
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	20761.0	0.0	20761.0
	% Fixture	81.2	0.0	81.2
Total	Lumens	25571.5	0.0	25571.5
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	332.7	1.3
10°-20°	953.8	3.7
20°-30°	1576.0	6.2
30°-40°	2552.0	10.0
40°-50°	4076.8	15.9
50°-60°	5838.4	22.8
60°-70°	6504.8	25.4
70°-80°	3254.3	12.7
80°-90°	482.9	1.9
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°	25571.5	100.0
0°-180°	25571.5	100.0



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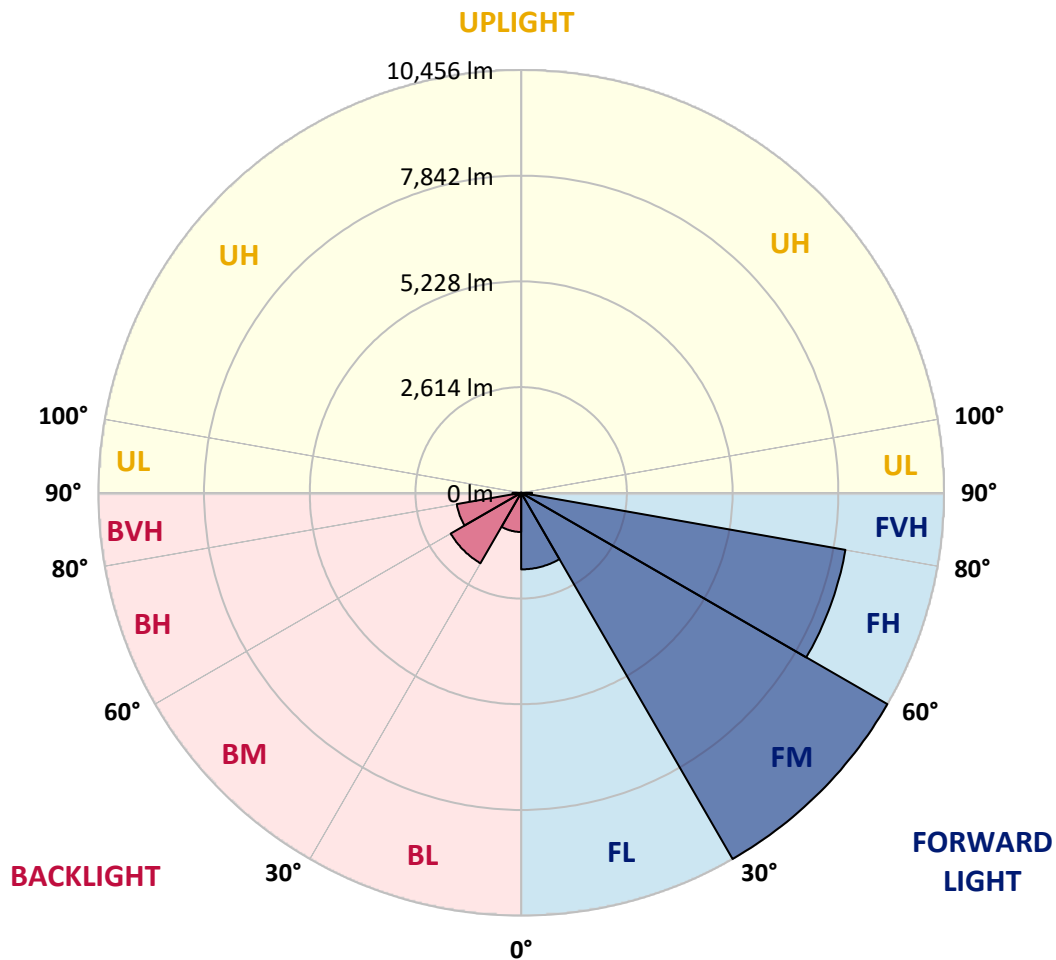
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1893.3	7.4			
FM	(30°-60°)	10456.2	40.9			
FH	(60°-80°)	8141.6	31.8			G4/12000
FVH	(80°-90°)	269.9	1.1			G3/500
BL	(0°-30°)	969.1	3.8	B2/1000		
BM	(30°-60°)	2010.9	7.9	B2/2500		
BH	(60°-80°)	1617.4	6.3	B3/2500		G3/2500
BVH	(80°-90°)	213.1	0.8			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 II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	3588.5	3588.5	3588.5	3588.5	3588.5	3588.5	3588.5	3588.5	3588.5	3588.5	3588.5
2.5°	3939.7	3931.4	3929.7	3904.8	3891.3	3862.8	3796.0	3727.3	3663.7	3630.3	3595.1
5°	4269.4	4252.7	4244.3	4202.5	4165.7	4102.1	3996.6	3888.0	3774.1	3715.6	3645.4
7.5°	4468.4	4470.1	4470.1	4436.6	4399.9	4323.0	4189.1	4040.1	3871.2	3794.4	3683.9
10°	4485.1	4486.9	4511.9	4520.4	4528.6	4488.6	4364.8	4177.4	3959.9	3859.5	3715.6
12.5°	4319.6	4331.3	4373.0	4433.3	4518.7	4562.1	4508.7	4324.6	4073.6	3951.6	3775.8
15°	4097.1	4108.8	4162.3	4254.4	4391.5	4537.1	4612.3	4493.5	4222.6	4078.7	3864.5
17.5°	3988.4	4001.7	4038.5	4112.1	4246.0	4441.7	4667.6	4674.2	4398.2	4232.5	3969.9
20°	3936.5	3946.6	3993.3	4053.6	4155.6	4342.9	4672.5	4865.0	4607.3	4414.9	4098.7
22.5°	4055.3	4058.6	4082.0	4115.4	4184.0	4327.9	4669.2	5062.4	4868.4	4644.1	4264.3
25°	4403.2	4381.5	4364.8	4323.0	4339.6	4441.7	4722.7	5273.2	5203.0	4945.3	4485.1
27.5°	4814.7	4811.4	4767.9	4670.8	4609.1	4674.2	4875.0	5509.0	5612.8	5328.3	4774.6
30°	5273.2	5274.8	5229.7	5110.8	4985.5	4992.2	5117.6	5781.8	6102.9	5790.1	5130.9
32.5°	5753.4	5783.4	5699.7	5581.0	5428.7	5380.2	5465.6	6111.3	6670.1	6335.4	5544.2
35°	6327.1	6332.2	6240.2	6066.2	5913.9	5836.9	5915.6	6522.9	7324.2	6976.2	6047.7
37.5°	6922.7	6926.0	6830.7	6608.2	6415.8	6365.6	6452.5	7023.0	8016.8	7705.7	6639.9
40°	7409.5	7444.7	7369.3	7160.3	6966.1	6936.1	7061.5	7621.9	8901.8	8568.9	7344.4
42.5°	7961.6	8001.7	7911.5	7694.0	7540.1	7530.0	7725.8	8304.6	9781.7	9567.7	8142.2
45°	8583.9	8640.8	8515.4	8271.1	8140.6	8361.5	8373.1	9060.8	10795.7	10685.2	9040.6
47.5°	9263.1	9310.0	9207.9	8945.3	8803.1	9122.6	9007.1	9878.8	11891.4	11883.0	10012.7
50°	9786.9	9838.6	9848.7	9733.2	9584.3	9624.5	9703.1	10738.7	12983.8	13114.3	11018.2
52.5°	9691.5	9741.6	9967.5	10270.3	10509.5	10405.7	10501.1	11652.2	14039.4	14315.5	11973.4
55°	8921.8	8948.6	9371.8	10091.3	11110.1	11605.4	11612.0	12645.9	15043.2	15429.6	12880.1
57.5°	7535.1	7538.3	8088.8	9149.3	10760.4	12383.2	13365.3	13893.9	16090.5	16661.0	14004.3
60°	5331.7	5345.1	5985.9	7372.7	9507.4	12289.5	15250.6	16127.4	17303.4	18044.6	15453.2
62.5°	3165.3	3195.4	3678.7	4791.4	7061.5	11085.1	16364.9	20100.6	19090.2	20073.9	17771.8
65°	2059.5	2084.4	2374.0	2932.6	4172.4	8065.3	15998.5	23948.4	22471.1	23265.8	21104.3
67.5°	1586.0	1606.0	1833.6	2171.6	2559.6	4359.7	12791.4	24754.8	26586.6	26834.2	23916.6
69°	1393.6	1410.2	1577.7	1902.2	2154.8	2885.8	9532.5	23291.0	27615.4	27751.0	23951.7
70°	1291.6	1304.9	1462.3	1743.3	1979.1	2303.7	7295.8	21591.2	27239.0	27585.4	23260.8
72.5°	1064.0	1075.7	1187.7	1403.6	1617.8	1641.2	3232.1	15766.0	22936.2	24043.8	19684.0
75°	888.3	895.0	968.6	1125.8	1309.9	1306.6	1651.3	8930.2	13996.0	15315.9	12154.1
77.5°	741.1	746.1	794.6	891.7	1033.9	1028.9	1162.6	3854.4	6179.9	5962.4	4184.0
80°	654.1	657.5	682.5	707.7	798.1	792.9	861.6	1770.0	2514.4	2323.7	1582.6
82.5°	496.9	503.6	630.7	642.4	619.0	597.3	600.5	1030.5	1288.2	1172.7	849.8
85°	281.1	282.7	404.9	473.4	538.8	404.9	389.9	531.9	635.7	557.0	371.4
87.5°	125.5	130.6	194.0	224.1	291.1	237.5	222.5	225.8	274.3	227.5	147.2
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°	3588.5	3588.5	3588.5	3588.5	3588.5	3588.5	3588.5	3588.5	3588.5	3588.5	3588.5
2.5°	3561.7	3533.4	3466.4	3397.7	3329.2	3285.7	3240.5	3198.7	3181.9	3180.3	3148.5
5°	3576.8	3509.9	3357.7	3190.3	3031.4	2907.6	2803.9	2737.0	2671.6	2660.1	2631.6
7.5°	3581.8	3473.0	3225.5	2957.8	2715.1	2544.5	2440.9	2395.7	2363.9	2355.5	2345.5
10°	3580.1	3426.2	3078.2	2711.9	2435.8	2306.9	2268.5	2278.6	2291.9	2298.7	2298.7
12.5°	3606.9	3404.4	2931.0	2480.9	2255.1	2193.2	2223.3	2275.1	2315.4	2332.1	2335.5
15°	3655.5	3391.1	2768.8	2280.3	2128.1	2143.0	2216.7	2291.9	2348.8	2374.0	2380.6
17.5°	3715.6	3372.6	2581.4	2114.6	2054.5	2106.3	2201.7	2297.0	2365.5	2397.3	2402.3
20°	3782.6	3345.8	2387.3	1990.9	1989.1	2054.5	2149.7	2256.8	2330.5	2365.5	2363.9
22.5°	3873.0	3320.9	2206.6	1900.5	1917.3	1977.3	2056.1	2153.1	2221.7	2253.5	2246.8
25°	3993.3	3297.4	2044.4	1820.1	1835.2	1875.4	1930.5	2004.2	2052.6	2069.4	2057.7
27.5°	4155.6	3279.1	1917.3	1746.6	1744.9	1763.4	1796.8	1836.9	1860.3	1855.3	1836.9
30°	4354.8	3260.6	1823.5	1681.3	1657.9	1656.2	1671.2	1694.7	1709.7	1679.7	1664.6
32.5°	4577.3	3228.8	1739.8	1624.5	1582.6	1567.5	1574.3	1606.0	1668.0	1637.8	1626.1
35°	4839.9	3191.9	1656.2	1562.5	1530.7	1502.3	1507.4	1575.9	1763.4	1741.5	1729.9
37.5°	5156.0	3158.5	1579.3	1495.6	1493.9	1458.8	1455.4	1537.4	1788.3	1741.5	1731.6
40°	5535.9	3151.9	1510.7	1421.9	1448.7	1435.4	1423.6	1473.8	1649.6	1554.2	1535.8
42.5°	5994.2	3181.9	1460.5	1351.8	1397.0	1428.8	1406.9	1418.7	1490.6	1405.3	1390.2
45°	6529.5	3263.9	1423.6	1289.8	1341.7	1423.6	1398.7	1388.6	1400.3	1353.4	1343.3
47.5°	7153.6	3409.4	1398.7	1238.0	1289.8	1410.2	1395.2	1375.1	1370.2	1343.3	1336.7
50°	7821.1	3605.2	1381.9	1191.2	1243.1	1386.9	1393.6	1365.2	1356.8	1345.0	1341.7
52.5°	8483.6	3817.6	1361.8	1151.0	1204.5	1358.4	1395.2	1355.2	1343.3	1336.7	1333.4
55°	9142.7	4038.5	1325.0	1115.9	1176.2	1325.0	1393.6	1341.7	1328.4	1328.4	1328.4
57.5°	9997.5	4374.7	1276.5	1087.4	1139.3	1281.5	1371.8	1326.6	1308.2	1309.9	1311.5
60°	11232.2	4938.5	1223.0	1055.7	1090.7	1231.2	1338.4	1299.8	1278.2	1284.8	1286.6
62.5°	13294.9	5924.0	1149.3	1010.5	1040.5	1177.8	1294.8	1263.0	1243.1	1254.8	1256.4
65°	16045.3	7116.7	1052.3	953.6	988.8	1117.5	1239.8	1219.5	1197.8	1226.2	1224.6
67.5°	17723.3	7466.4	950.2	893.4	938.5	1053.9	1171.1	1162.6	1147.7	1197.8	1194.4
69°	17172.9	6834.0	891.7	854.8	903.3	1010.5	1127.6	1124.1	1112.6	1161.0	1157.6
70°	16318.0	6243.5	854.8	829.8	885.0	983.7	1099.2	1099.2	1087.4	1129.3	1120.8
72.5°	13107.6	4630.8	769.6	766.3	821.4	910.2	1022.2	1030.5	1023.9	1038.9	1030.5
75°	7695.6	2790.4	685.9	695.9	744.4	831.4	936.8	943.6	936.8	935.1	936.8
77.5°	2668.3	1251.3	605.5	620.6	662.5	751.2	843.1	856.5	846.6	834.9	838.2
80°	1043.9	727.7	518.6	540.4	575.5	660.9	749.5	757.8	742.8	741.1	727.7
82.5°	627.3	443.4	403.2	438.4	481.9	573.8	647.4	644.1	632.3	700.9	614.0
85°	272.6	246.0	294.5	329.6	351.2	430.0	547.1	531.9	503.6	443.4	433.3
87.5°	110.4	127.1	162.2	195.7	210.8	277.8	374.8	361.4	366.4	301.1	299.4
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)