

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: P270628

Luminaire Tested: **NAV-AF-05-D-UNV-T3-7027-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270628
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (p24135)
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-T3-7027-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 2700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 28666.1 lumens
Efficiency: N/A
Efficacy: 89.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G4

Input Watts (W): 320
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

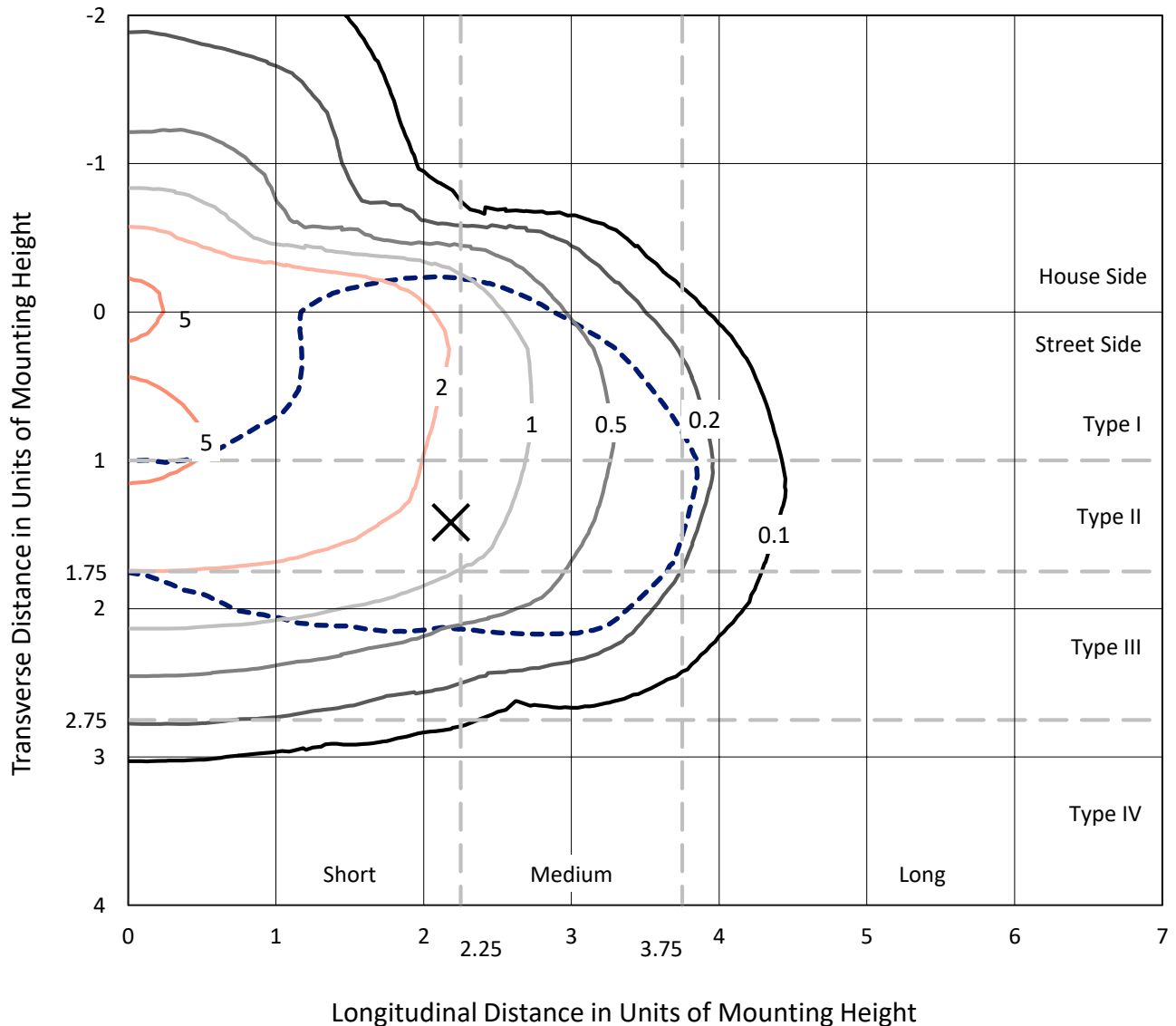


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Iso-Footcandle Lines of Horizontal Illumination

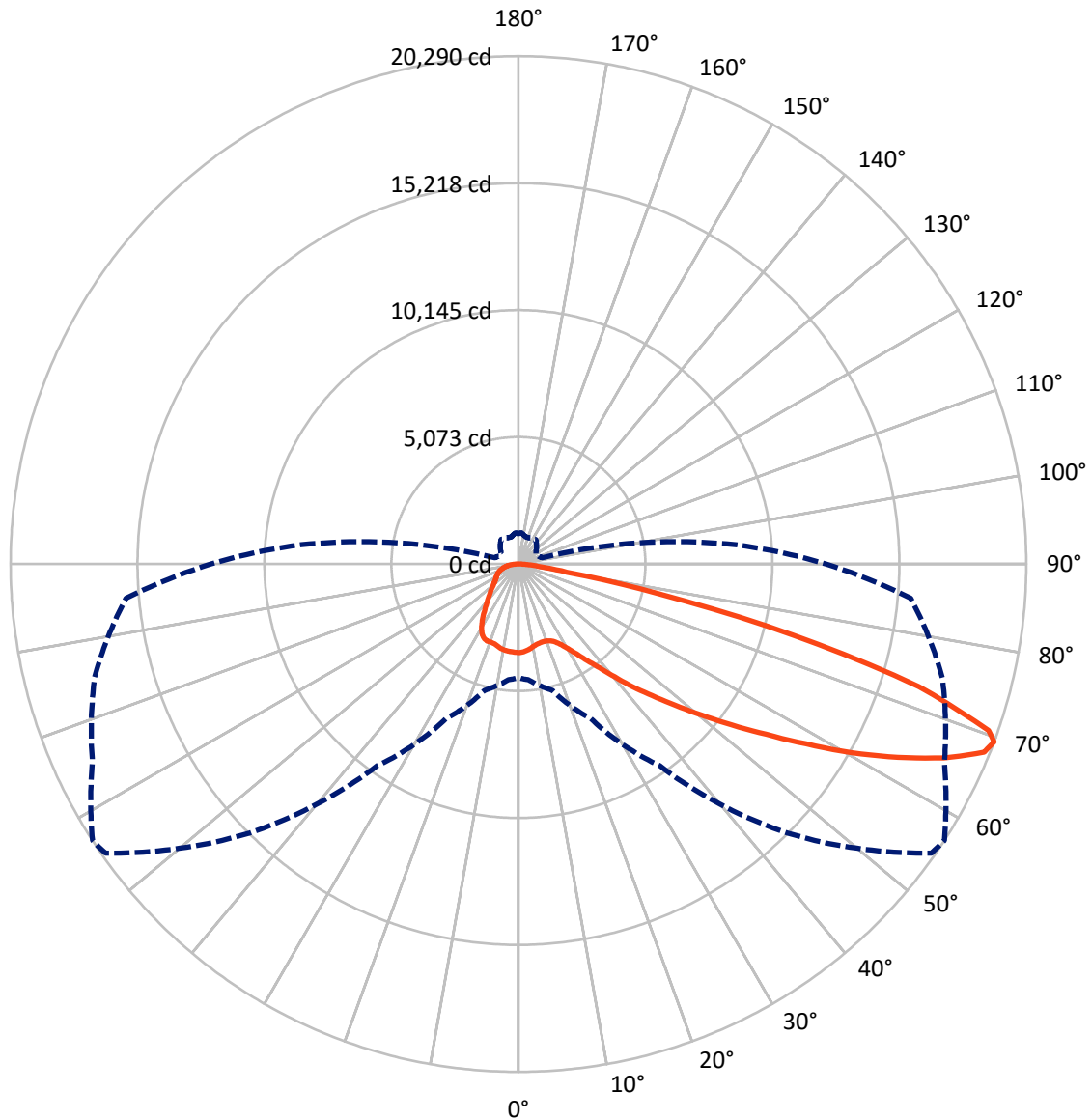
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.8 fc
 Type III - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	6325.6	0.0	6325.6
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	22340.5	0.0	22340.5
	% Fixture	77.9	0.0	77.9
Total	Lumens	28666.1	0.0	28666.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	331.6	1.2
10°-20°	942.8	3.3
20°-30°	1568.4	5.5
30°-40°	2561.1	8.9
40°-50°	4322.6	15.1
50°-60°	6724.0	23.5
60°-70°	8009.7	27.9
70°-80°	3731.4	13.0
80°-90°	474.6	1.7
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°	28666.1	100.0
0°-180°	28666.1	100.0



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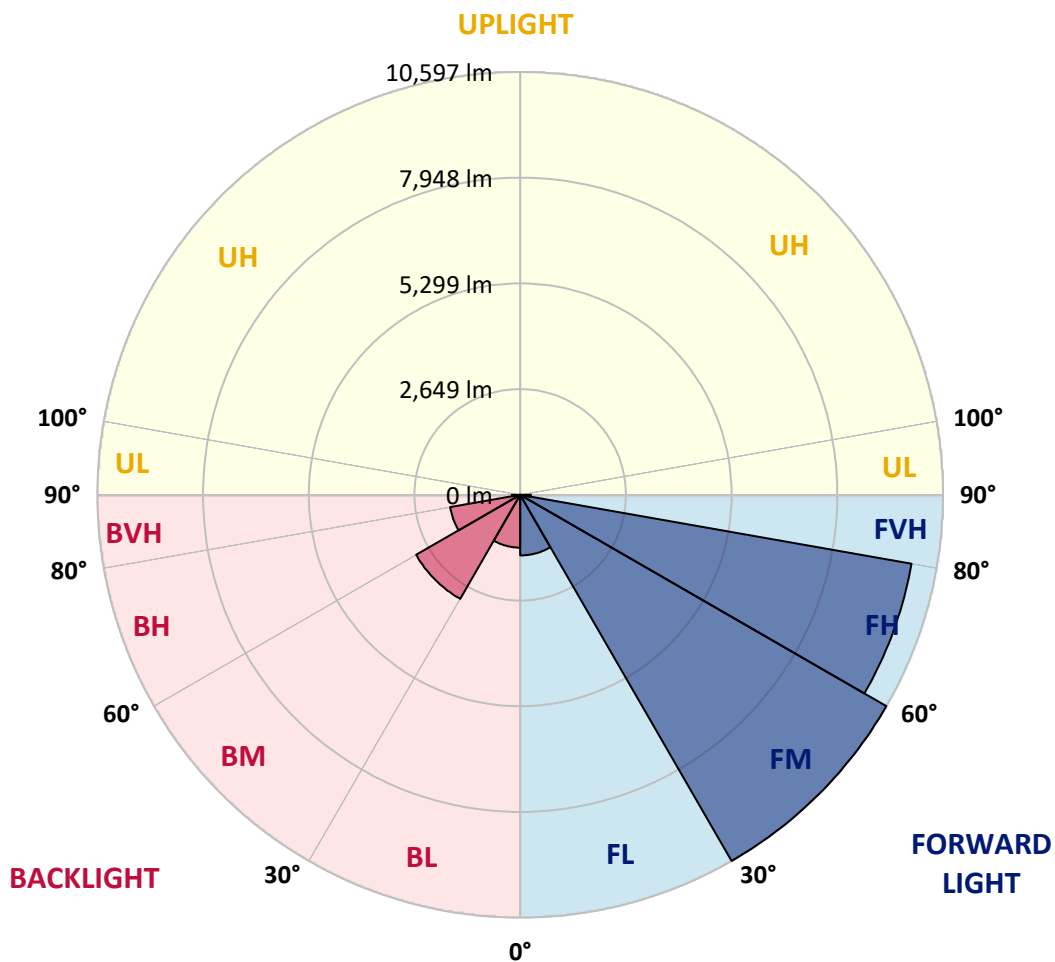
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1518.1	5.3			
FM	(30°-60°)	10597.0	37.0			
FH	(60°-80°)	9958.7	34.7			G4/12000
FVH	(80°-90°)	266.8	0.9			G3/500
BL	(0°-30°)	1324.7	4.6	B3/2500		
BM	(30°-60°)	3010.6	10.5	B3/5000		
BH	(60°-80°)	1782.5	6.2	B3/2500		G3/2500
BVH	(80°-90°)	207.8	0.7			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 Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	3541.9	3541.9	3541.9	3541.9	3541.9	3541.9	3541.9	3541.9	3541.9	3541.9	3541.9
2.5°	3521.7	3521.7	3531.0	3531.0	3531.0	3527.4	3516.2	3520.0	3512.6	3507.2	3497.9
5°	3450.2	3454.0	3464.9	3468.5	3474.0	3475.9	3475.9	3474.0	3475.9	3475.9	3470.4
7.5°	3351.0	3354.8	3367.7	3375.0	3391.6	3406.2	3413.5	3413.5	3422.7	3430.0	3431.9
10°	3290.5	3290.5	3297.9	3297.9	3310.8	3318.1	3342.0	3340.1	3365.8	3389.7	3400.7
12.5°	3283.2	3283.2	3279.5	3266.6	3259.4	3257.6	3281.4	3285.0	3323.5	3365.8	3386.0
15°	3307.1	3307.1	3296.1	3270.4	3242.8	3229.9	3253.8	3261.1	3303.3	3353.0	3384.2
17.5°	3384.2	3382.3	3358.5	3307.1	3259.4	3239.2	3246.6	3253.8	3292.4	3349.3	3387.8
20°	3554.9	3554.9	3503.4	3409.8	3327.2	3279.5	3268.6	3274.1	3301.6	3354.8	3404.3
22.5°	3854.0	3859.5	3767.8	3613.5	3472.3	3371.2	3327.2	3332.7	3345.6	3397.0	3452.0
25°	4294.3	4279.7	4149.5	3931.1	3710.8	3538.3	3448.4	3454.0	3454.0	3501.7	3558.5
27.5°	4760.6	4764.3	4577.0	4342.1	4052.2	3795.2	3652.1	3650.3	3648.5	3694.3	3754.8
30°	5287.2	5289.1	5072.5	4800.9	4468.8	4140.3	3925.6	3923.6	3907.2	3964.1	4043.0
32.5°	5863.5	5861.7	5610.3	5303.9	4934.8	4562.3	4283.4	4281.6	4268.7	4345.8	4441.2
35°	6502.2	6502.2	6252.7	5874.6	5476.2	5061.5	4738.6	4736.8	4744.0	4848.6	4938.6
37.5°	7271.2	7287.7	6986.7	6528.0	6092.9	5650.7	5274.4	5263.3	5208.4	5384.5	5533.2
40°	8073.2	8119.1	7807.0	7271.2	6801.3	6344.4	5929.6	5922.3	5874.6	6061.8	6302.1
42.5°	8941.2	9045.8	8698.9	8152.1	7640.1	7146.3	6729.7	6709.6	6526.0	6817.9	7194.0
45°	10079.1	10147.0	9644.2	9148.6	8665.9	8102.5	7606.9	7498.7	7315.2	7689.6	8177.7
47.5°	10853.5	10820.4	10506.7	10174.5	9864.3	9324.8	8563.2	8425.6	8201.6	8697.1	9234.8
50°	11334.4	11358.2	11182.0	11165.6	11149.0	10772.7	9642.2	9477.1	9218.3	9805.5	10433.3
52.5°	11651.8	11543.6	11574.8	11949.2	12402.4	12222.6	10862.7	10679.2	10413.1	11000.4	11708.7
55°	11519.7	11376.6	11664.8	12402.4	13468.6	13509.2	12202.3	12013.4	11785.9	12270.3	13243.0
57.5°	10972.7	11044.4	11499.6	12525.3	14197.4	14661.5	13742.1	13549.5	13101.7	13593.5	14700.1
60°	10203.8	10348.8	11044.4	12330.9	14707.5	15559.1	15432.4	15304.0	14533.0	14881.9	16230.7
62.5°	9377.9	9521.1	10376.3	11998.8	14478.1	16353.6	17091.4	17012.6	16113.3	16122.4	17201.6
65°	8157.6	8216.3	9089.9	11092.1	13841.3	17071.2	18752.3	18682.6	17623.7	17181.3	17473.1
67.5°	6160.8	6234.2	6951.9	8755.9	11903.3	16682.2	20079.2	20068.1	18532.0	17574.1	16827.2
69°	4549.6	4639.4	5224.9	6797.7	9842.3	15199.3	20141.5	20290.2	18778.0	17533.7	15735.3
70°	3329.1	3431.9	3973.3	5395.6	8197.9	13562.3	19607.6	19926.8	18684.3	17278.5	14883.7
72.5°	1415.0	1449.9	1715.9	2435.3	4158.7	8177.7	16060.1	16731.7	16874.9	15482.0	11628.0
75°	886.4	897.4	1002.0	1249.8	1849.9	3382.3	10400.1	11315.9	12598.8	12011.5	7785.0
77.5°	668.0	677.2	737.8	860.8	1148.8	1262.7	4824.7	5753.5	7216.1	7065.6	3874.2
80°	512.0	517.6	557.8	625.8	809.4	791.0	1565.4	1967.4	3011.6	2657.4	1371.0
82.5°	401.9	403.8	438.6	451.5	565.3	532.2	785.5	875.4	1216.8	1011.2	669.9
85°	356.1	361.6	396.4	330.3	361.6	321.1	431.2	467.9	646.1	609.3	253.2
87.5°	181.6	190.9	332.2	282.6	181.6	152.4	189.1	203.7	262.5	284.5	123.0
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°	3541.9	3541.9	3541.9	3541.9	3541.9	3541.9	3541.9	3541.9	3541.9	3541.9	3541.9
2.5°	3499.7	3501.7	3507.2	3516.2	3531.0	3549.4	3571.3	3593.4	3606.2	3615.4	3611.7
5°	3470.4	3472.3	3483.3	3499.7	3518.1	3545.6	3582.4	3609.8	3630.1	3642.9	3641.1
7.5°	3433.7	3439.3	3461.2	3479.6	3505.2	3527.4	3556.7	3582.4	3602.6	3615.4	3613.5
10°	3406.2	3411.8	3439.3	3463.1	3485.1	3488.7	3483.3	3475.9	3474.0	3483.3	3479.6
12.5°	3393.3	3404.3	3430.0	3446.5	3437.4	3402.5	3362.1	3345.6	3340.1	3358.5	3360.3
15°	3397.0	3406.2	3428.2	3417.2	3367.7	3308.8	3286.9	3299.7	3310.8	3321.8	3323.5
17.5°	3406.2	3411.8	3417.2	3376.8	3307.1	3268.6	3261.1	3248.4	3215.4	3197.0	3195.1
20°	3422.7	3430.0	3420.8	3356.6	3294.3	3242.8	3154.8	3075.8	3000.6	2960.3	2943.7
22.5°	3479.6	3485.1	3457.5	3395.1	3299.7	3132.7	2954.7	2818.9	2703.3	2640.8	2617.0
25°	3591.6	3600.6	3562.1	3483.3	3233.7	2941.9	2690.5	2506.9	2362.0	2286.6	2266.6
27.5°	3788.0	3797.0	3754.8	3549.4	3079.5	2686.8	2382.1	2200.4	2075.7	2011.5	2002.2
30°	4081.4	4094.4	4055.8	3547.4	2844.7	2362.0	2081.2	1974.7	1903.1	1859.1	1857.2
32.5°	4489.0	4536.7	4378.9	3485.1	2554.6	2033.5	1853.6	1816.9	1782.0	1752.7	1752.7
35°	5006.4	5118.5	4698.1	3354.8	2235.3	1809.5	1726.9	1692.0	1648.0	1616.8	1613.1
37.5°	5624.9	5799.3	4925.8	3123.5	1960.0	1701.3	1649.8	1593.0	1523.3	1462.7	1448.0
40°	6474.7	6515.0	5037.6	2747.3	1754.5	1642.6	1578.3	1506.6	1418.7	1350.7	1343.3
42.5°	7328.1	7196.0	5015.6	2343.6	1637.0	1589.3	1504.9	1426.0	1347.1	1290.1	1290.1
45°	8298.9	7790.6	4848.6	1938.1	1530.6	1528.7	1437.0	1361.7	1301.1	1259.0	1249.8
47.5°	9227.5	8324.6	4560.5	1638.9	1420.5	1468.2	1392.9	1332.4	1277.3	1237.0	1229.6
50°	10354.4	8943.0	4254.1	1429.7	1314.0	1415.0	1374.5	1343.3	1290.1	1220.3	1213.2
52.5°	11473.8	9666.1	4017.3	1271.8	1220.3	1372.7	1385.5	1389.3	1339.7	1203.9	1194.7
55°	12676.0	10438.8	3767.8	1148.8	1143.4	1352.6	1411.2	1407.6	1383.7	1207.6	1192.9
57.5°	13819.3	11215.1	3395.1	1062.5	1082.7	1332.4	1416.7	1358.1	1315.8	1225.9	1202.1
60°	14766.2	11857.4	2848.3	1002.0	1031.4	1292.0	1380.1	1292.0	1220.3	1222.2	1200.2
62.5°	15226.8	12037.2	2178.4	932.4	989.2	1225.9	1326.8	1242.4	1176.4	1229.6	1216.8
65°	14876.3	11525.3	1552.6	868.0	937.8	1148.8	1295.6	1200.2	1154.3	1266.3	1251.6
67.5°	13617.3	10130.5	1126.8	811.2	888.2	1069.9	1237.0	1161.7	1132.4	1293.7	1260.9
69°	12279.6	8746.6	976.4	778.1	853.4	1027.8	1198.3	1141.4	1115.9	1255.3	1207.6
70°	11167.3	7680.4	901.1	757.9	824.0	1003.9	1169.1	1128.7	1099.3	1209.4	1152.5
72.5°	8007.1	4964.3	757.9	697.4	746.9	950.6	1104.7	1080.9	1037.0	1092.0	1055.2
75°	4837.6	2591.3	644.2	635.0	666.3	877.3	1029.5	1000.3	956.2	961.6	943.3
77.5°	2222.4	1196.5	539.5	561.6	581.7	785.5	937.8	904.8	864.3	849.6	851.6
80°	974.5	699.2	451.5	478.9	489.9	706.5	838.7	801.9	757.9	837.0	776.2
82.5°	526.6	405.6	352.3	370.7	401.9	614.8	728.5	680.8	638.6	743.3	600.1
85°	212.9	207.4	238.6	256.9	279.0	442.2	609.3	559.7	508.4	455.1	444.1
87.5°	91.7	99.2	117.5	124.8	148.7	275.3	409.3	357.9	359.7	308.3	302.8
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)