

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: P196846

Luminaire Tested: **NAV-AF-04-D-UNV-T4FT-7030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196846
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24256)
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-T4FT-7030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 26088.9 lumens
Efficiency: N/A
Efficacy: 101.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-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

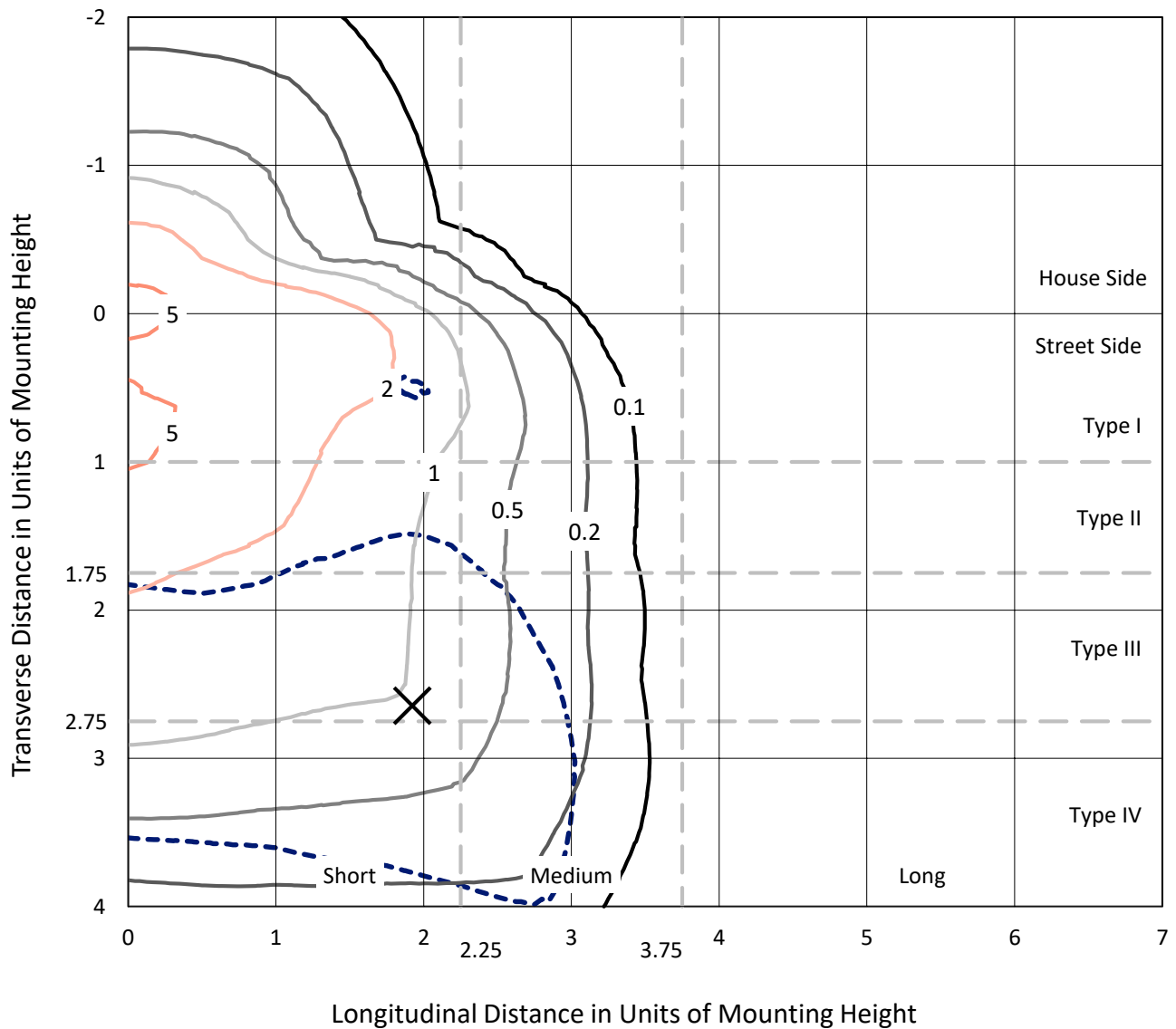


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Iso-Footcandle Lines of Horizontal Illumination

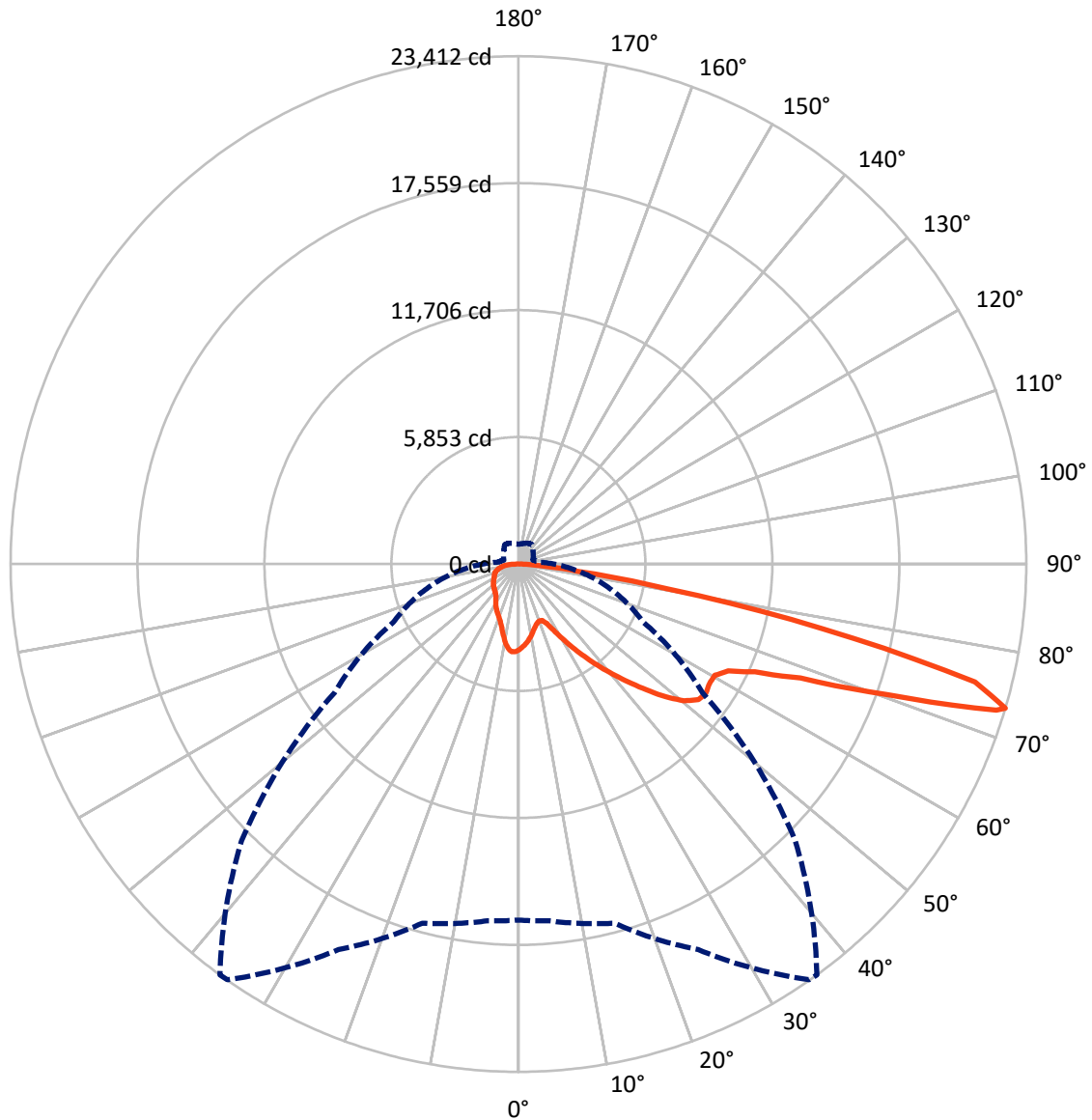
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.3 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral - - - Horizontal Cone Through 73-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5030.7	0.0	5030.7
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	21058.2	0.0	21058.2
	% Fixture	80.7	0.0	80.7
Total	Lumens	26088.9	0.0	26088.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	358.9	1.4
10°-20°	901.5	3.5
20°-30°	1445.3	5.5
30°-40°	2390.6	9.2
40°-50°	3699.2	14.2
50°-60°	4952.1	19.0
60°-70°	6469.1	24.8
70°-80°	5284.1	20.3
80°-90°	588.2	2.3
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°	26088.9	100.0
0°-180°	26088.9	100.0



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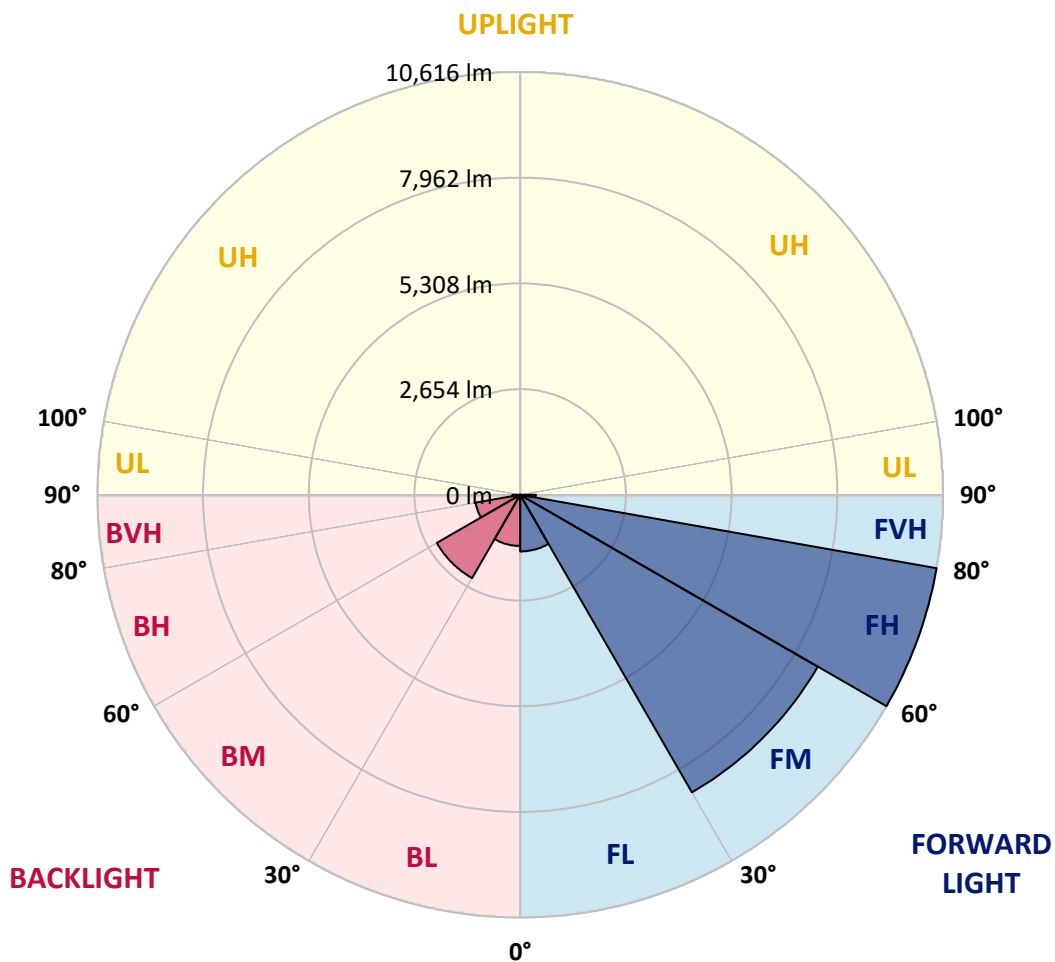
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1421.5	5.4			
FM (30°-60°)	8625.9	33.1			
FH (60°-80°)	10616.3	40.7			G4/12000
FVH (80°-90°)	394.5	1.5			G3/500
BL (0°-30°)	1284.1	4.9	B3/2500		
BM (30°-60°)	2416.0	9.3	B2/2500		
BH (60°-80°)	1136.8	4.4	B3/2500		G3/2500
BVH (80°-90°)	193.7	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 IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	3951.7	3951.7	3951.7	3951.7	3951.7	3951.7	3951.7	3951.7	3951.7	3951.7	3951.7
2.5°	3800.9	3810.9	3812.5	3824.1	3824.1	3822.4	3827.4	3847.2	3857.2	3880.5	3900.3
5°	3613.5	3625.1	3630.1	3650.1	3674.9	3676.6	3694.8	3733.0	3769.3	3820.8	3863.9
7.5°	3403.1	3416.3	3429.5	3471.0	3507.4	3510.8	3545.6	3606.9	3655.0	3718.0	3795.8
10°	3199.1	3202.5	3215.7	3268.8	3316.9	3321.8	3371.5	3441.1	3505.8	3593.6	3681.5
12.5°	3031.7	3041.7	3038.4	3078.2	3119.6	3122.9	3189.2	3277.1	3371.5	3471.0	3575.4
15°	2973.7	2972.1	2937.2	2935.6	2953.9	2957.1	3021.8	3124.6	3230.7	3353.2	3487.5
17.5°	3013.5	3000.3	2909.1	2852.8	2841.1	2844.4	2892.5	3005.1	3117.9	3258.8	3419.6
20°	3232.3	3181.0	2967.2	2831.1	2793.1	2793.1	2821.2	2912.5	3036.8	3200.9	3403.1
22.5°	3751.2	3671.5	3215.7	2973.7	2839.4	2826.2	2804.6	2874.3	3011.8	3209.2	3471.0
25°	4404.2	4366.1	3671.5	3353.2	3076.5	3033.4	2890.9	2915.7	3063.2	3298.6	3656.7
27.5°	5009.2	4943.0	4270.0	3905.3	3514.1	3447.7	3146.1	3045.0	3185.9	3464.4	3925.1
30°	5362.3	5317.5	4885.0	4536.9	4071.1	3986.6	3553.8	3300.2	3404.7	3737.9	4306.5
32.5°	5746.9	5720.4	5501.5	5185.0	4674.4	4576.7	4081.1	3716.4	3739.5	4100.9	4765.6
35°	6119.8	6154.7	6030.3	5798.3	5324.2	5233.1	4788.9	4260.0	4152.3	4508.7	5256.3
37.5°	6567.3	6575.7	6497.7	6347.0	6007.2	5932.6	5566.2	4840.1	4601.5	4943.0	5730.3
40°	7460.9	7329.8	7025.0	6905.5	6703.3	6656.9	6239.2	5372.3	5019.3	5388.8	6177.8
42.5°	8427.2	8223.3	7745.9	7550.4	7469.2	7426.1	6799.4	5727.1	5410.4	5834.8	6617.2
45°	9206.3	9040.5	8573.1	8331.1	8341.1	8271.4	7288.4	6043.5	5834.8	6282.3	7107.8
47.5°	9973.7	9697.0	9173.2	9138.3	9254.4	9151.5	7755.9	6360.2	6277.3	6769.6	7598.4
50°	10023.5	9771.5	9559.4	9837.8	10036.8	9909.2	8180.2	6774.6	6736.5	7359.7	8231.6
52.5°	9418.4	9382.0	9705.3	10174.3	10504.1	10389.8	8526.7	7200.6	7205.5	8097.3	9002.4
55°	9198.0	9151.5	9539.4	10116.4	10562.2	10494.3	8785.3	7681.4	7726.0	8992.5	9829.5
57.5°	9569.4	9453.3	9529.5	10006.9	10426.3	10386.5	9053.8	8215.1	8296.3	10023.5	10593.7
60°	10721.4	10484.3	10079.8	10169.5	10431.3	10408.0	9438.4	8810.1	8946.0	11097.6	11077.7
62.5°	12447.0	12178.4	11354.6	10956.7	10898.7	10854.0	10073.2	9541.2	9609.2	11873.4	10795.9
65°	14339.8	14051.5	13071.8	12420.4	12078.9	11982.8	11097.6	10423.0	9997.0	11871.7	9698.6
67.5°	16465.0	16159.9	15183.6	14562.0	14192.3	14028.3	12760.2	11135.7	9871.0	10867.3	7760.9
70°	18641.4	18351.3	17903.8	18120.8	18283.3	18033.0	15379.3	11372.8	8966.0	8520.0	5211.4
72.5°	17486.0	17462.8	17802.6	19861.3	22992.5	23042.2	17994.9	10703.1	6927.1	5063.9	2778.1
73°	16413.6	16511.4	17141.2	19604.4	23395.3	23412.0	18046.3	10356.6	6360.2	4362.8	2440.0
75°	8503.4	9166.6	11503.7	15896.3	21663.2	21741.1	15907.9	7840.5	3791.0	2423.4	1644.4
77.5°	2277.5	2247.7	3706.4	7744.3	14442.7	14339.8	10051.7	3795.8	1816.8	1520.1	1153.7
80°	780.7	790.7	1261.4	2832.9	6741.4	6981.7	4362.8	1656.0	1195.1	1059.2	817.1
82.5°	397.8	411.1	659.7	1205.0	2819.6	2759.9	1404.0	974.7	800.7	643.1	457.5
85°	212.2	218.8	363.1	625.0	1034.3	1045.9	494.0	520.5	508.9	364.7	225.4
87.5°	104.5	107.7	174.0	275.2	383.0	369.7	172.4	225.4	250.3	205.5	124.3
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°	3951.7	3951.7	3951.7	3951.7	3951.7	3951.7	3951.7	3951.7	3951.7	3951.7	3951.7
2.5°	3925.1	3925.1	3946.8	3983.1	4009.7	4034.6	4051.2	4077.7	4092.7	4091.0	4089.2
5°	3898.7	3915.2	3958.4	4003.2	4033.0	4052.9	4052.9	4064.5	4064.5	4059.4	4052.9
7.5°	3837.3	3865.5	3928.5	3968.3	3976.6	3955.0	3911.9	3878.8	3837.3	3815.8	3807.4
10°	3739.5	3776.0	3855.5	3873.8	3830.7	3754.4	3650.1	3560.5	3481.0	3444.5	3432.9
12.5°	3643.4	3691.5	3766.0	3737.9	3635.2	3485.9	3325.1	3202.5	3113.1	3078.2	3066.6
15°	3563.8	3621.8	3679.9	3592.0	3413.0	3205.7	3028.4	2914.1	2846.1	2819.6	2813.0
17.5°	3510.8	3578.8	3598.7	3434.6	3185.9	2953.9	2796.4	2721.7	2691.9	2680.3	2677.1
20°	3514.1	3590.4	3542.3	3282.0	2967.2	2733.3	2629.0	2607.4	2607.4	2607.4	2605.8
22.5°	3605.2	3671.5	3519.1	3139.4	2756.6	2547.7	2503.0	2521.1	2534.5	2534.5	2532.8
25°	3794.2	3830.7	3535.6	3001.9	2559.3	2387.0	2388.6	2423.4	2435.1	2435.1	2431.7
27.5°	4082.7	4052.9	3565.4	2849.4	2365.4	2241.1	2264.3	2295.7	2304.1	2299.2	2297.4
30°	4444.0	4324.7	3590.4	2670.4	2183.1	2105.1	2125.1	2143.2	2136.7	2125.1	2123.4
32.5°	4848.5	4601.5	3575.4	2469.8	2022.3	1964.3	1975.9	1985.8	1975.9	1947.6	1947.6
35°	5249.6	4851.7	3494.2	2251.1	1894.7	1828.4	1826.7	1858.2	1856.6	1823.3	1825.0
37.5°	5601.0	5049.1	3336.8	2050.5	1785.2	1728.9	1735.5	1755.4	1765.3	1720.7	1715.6
40°	5907.6	5185.0	3114.7	1879.7	1697.4	1700.7	1682.5	1651.0	1639.3	1619.4	1616.2
42.5°	6196.1	5279.4	2879.2	1737.1	1652.6	1690.8	1629.4	1554.9	1523.3	1541.5	1553.1
45°	6479.5	5385.5	2652.2	1619.4	1596.3	1661.0	1576.4	1493.5	1457.1	1465.2	1476.9
47.5°	6826.0	5533.1	2378.7	1493.5	1510.1	1606.2	1543.2	1453.7	1399.1	1365.8	1355.9
50°	7281.8	5746.9	2023.9	1357.5	1419.0	1546.6	1515.1	1395.7	1336.0	1269.7	1253.1
52.5°	7852.0	5949.1	1665.8	1248.2	1344.3	1495.1	1468.7	1346.0	1273.1	1193.4	1180.2
55°	8420.6	5977.2	1357.5	1153.7	1259.8	1425.5	1412.2	1306.2	1203.4	1138.8	1125.5
57.5°	8818.5	5710.4	1150.4	1074.1	1178.6	1339.3	1361.0	1258.1	1145.4	1095.7	1087.3
60°	8825.1	5072.3	1024.5	1021.0	1117.1	1264.7	1307.9	1201.8	1109.0	1075.7	1069.1
62.5°	8123.9	4087.6	943.1	981.2	1072.5	1203.4	1268.1	1170.2	1100.7	1087.3	1080.8
65°	6809.4	3020.2	878.6	944.9	1031.1	1152.0	1234.9	1160.4	1097.3	1092.4	1087.3
67.5°	5027.4	2070.4	823.9	898.4	984.7	1099.0	1203.4	1145.4	1077.4	1097.3	1090.7
70°	3162.7	1382.4	772.5	845.3	923.2	1037.6	1162.0	1119.0	1052.6	1041.0	1019.4
72.5°	1785.2	999.5	711.1	777.4	843.7	956.4	1105.6	1074.1	996.2	949.8	928.2
73°	1612.8	946.5	696.2	760.9	825.5	939.8	1092.4	1060.9	979.6	928.2	908.4
75°	1180.2	774.1	628.2	692.9	749.2	863.5	1029.3	994.6	906.8	845.3	832.1
77.5°	855.3	596.8	540.4	598.4	648.1	757.5	934.9	895.1	808.9	775.7	762.5
80°	616.7	452.6	447.5	503.9	547.1	658.1	833.7	792.3	709.4	807.2	785.7
82.5°	367.9	290.1	328.3	391.1	436.0	552.0	724.4	676.4	596.8	603.3	513.8
85°	175.7	164.1	203.9	257.0	288.5	377.9	603.3	565.2	477.4	391.1	383.0
87.5°	77.9	74.7	97.8	114.4	154.2	227.0	412.8	366.3	346.5	207.1	162.5
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)