

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: P195886

Luminaire Tested: **NAV-AF-04-D-UNV-T4FT-7050-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195886
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-7050-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5000K, 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: 26975 lumens
Efficiency: N/A
Efficacy: 104.6 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

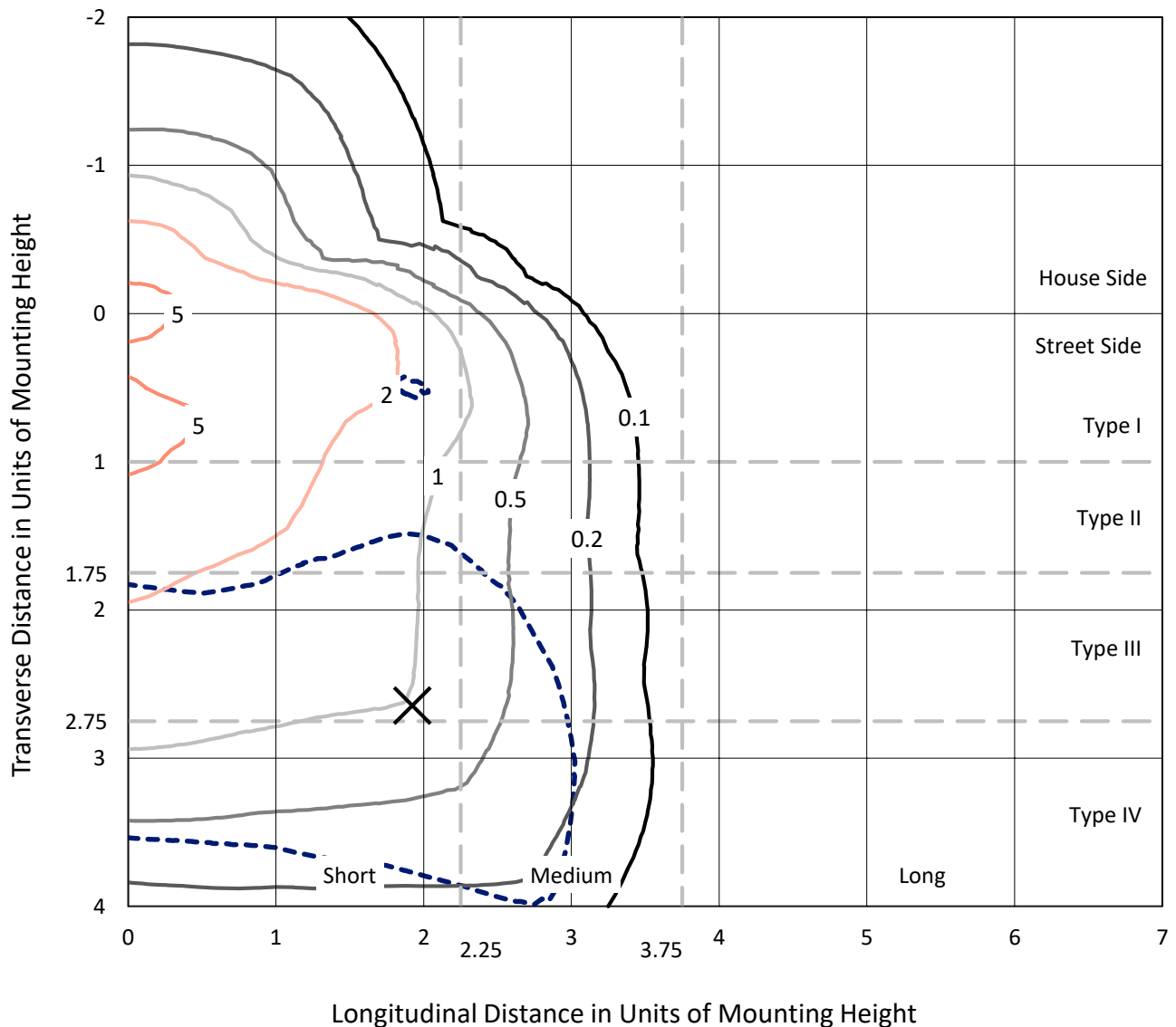
Input Watts (W): 258
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

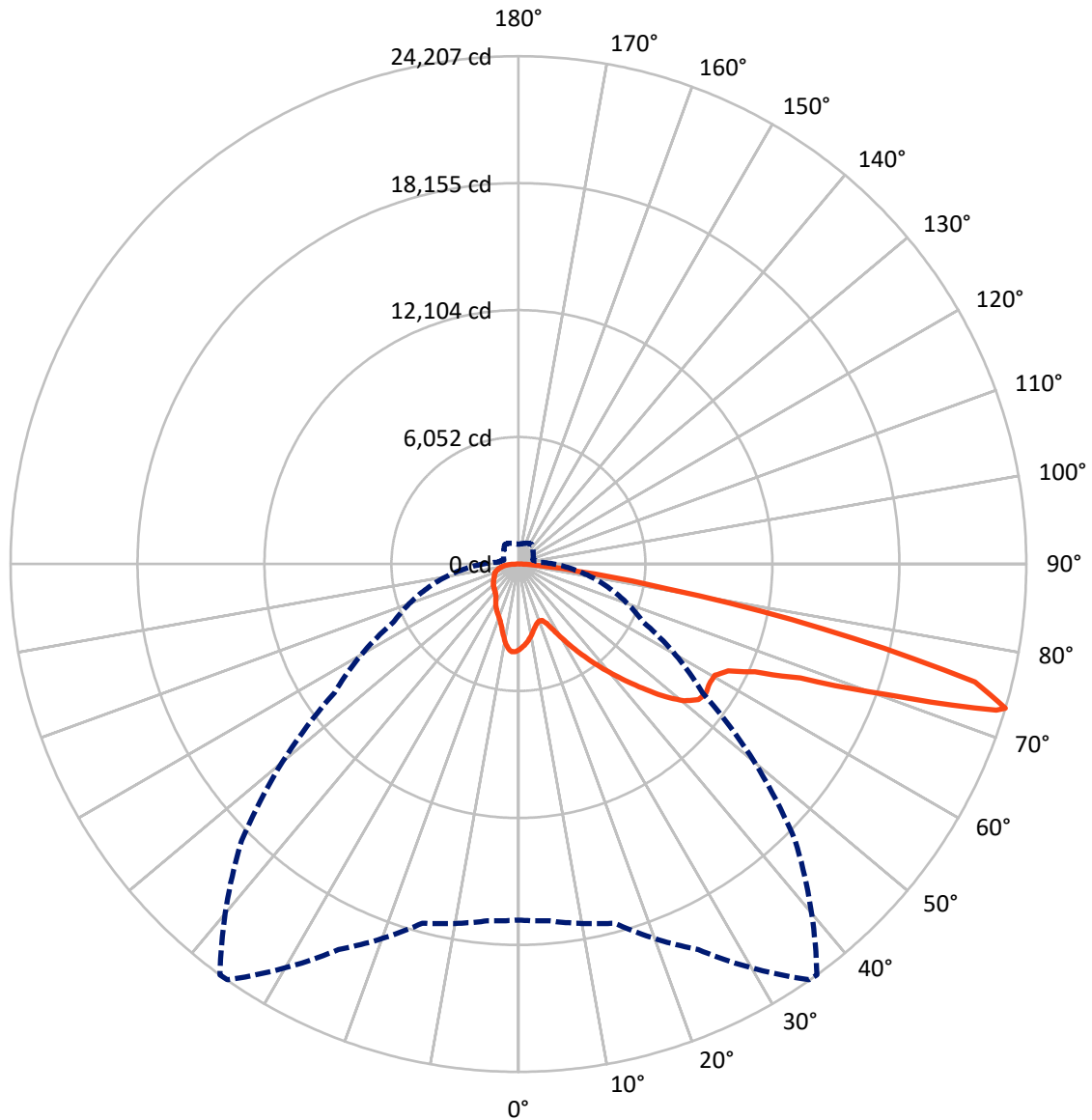
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.5 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	5201.6	0.0	5201.6
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	21773.4	0.0	21773.4
	% Fixture	80.7	0.0	80.7
Total	Lumens	26975.0	0.0	26975.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	371.1	1.4
10°-20°	932.1	3.5
20°-30°	1494.4	5.5
30°-40°	2471.8	9.2
40°-50°	3824.8	14.2
50°-60°	5120.3	19.0
60°-70°	6688.8	24.8
70°-80°	5463.5	20.3
80°-90°	608.1	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°	26975.0	100.0
0°-180°	26975.0	100.0



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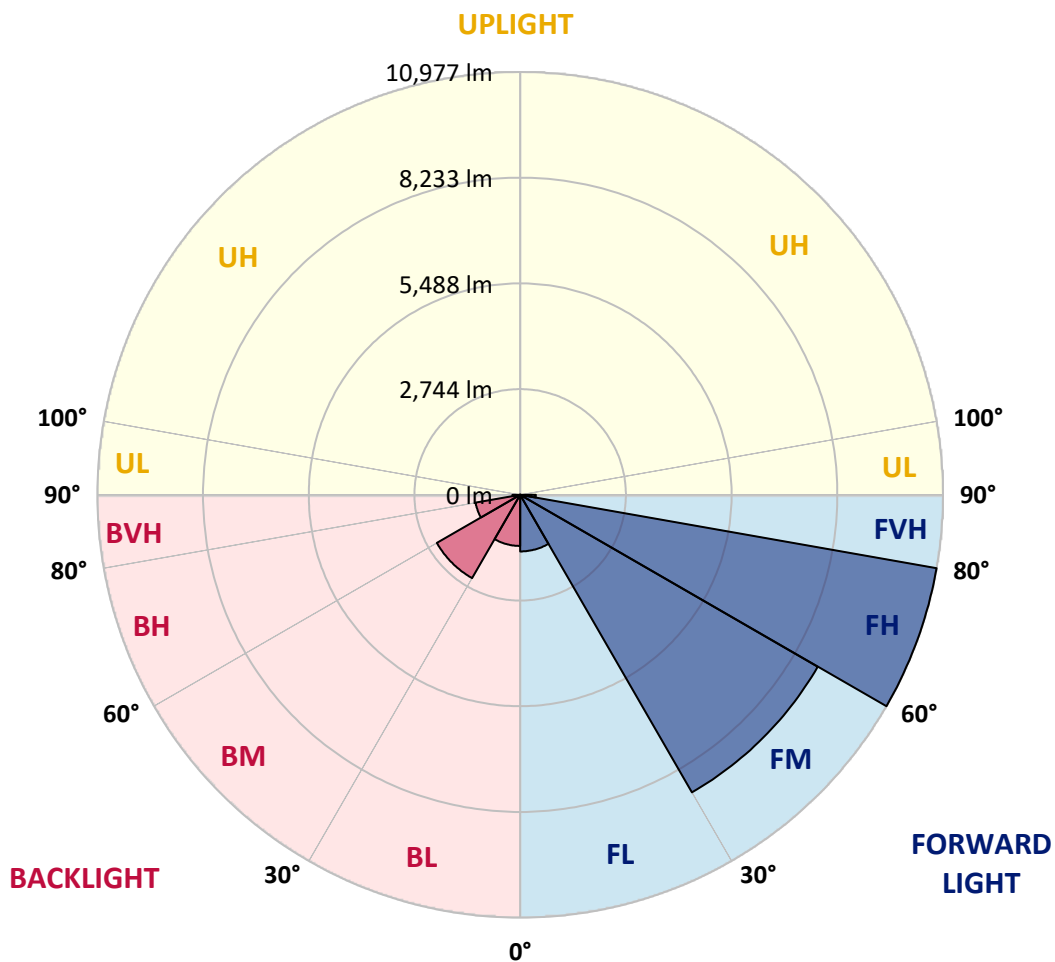
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1469.8	5.4			
FM (30°-60°)	8918.9	33.1			
FH (60°-80°)	10976.9	40.7			G4/12000
FVH (80°-90°)	407.9	1.5			G3/500
BL (0°-30°)	1327.8	4.9	B3/2500		
BM (30°-60°)	2498.1	9.3	B2/2500		
BH (60°-80°)	1175.5	4.4	B3/2500		G3/2500
BVH (80°-90°)	200.3	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°	4085.9	4085.9	4085.9	4085.9	4085.9	4085.9	4085.9	4085.9	4085.9	4085.9	4085.9
2.5°	3930.0	3940.2	3942.0	3954.0	3954.0	3952.2	3957.4	3978.0	3988.2	4012.2	4032.8
5°	3736.3	3748.3	3753.4	3774.0	3799.7	3801.4	3820.3	3859.7	3897.4	3950.5	3995.1
7.5°	3518.6	3532.3	3546.1	3588.9	3626.6	3630.0	3666.0	3729.4	3779.1	3844.3	3924.8
10°	3307.8	3311.2	3325.0	3379.8	3429.5	3434.6	3486.1	3558.0	3624.9	3715.7	3806.6
12.5°	3134.7	3145.0	3141.6	3182.7	3225.6	3229.0	3297.5	3388.4	3486.1	3588.9	3696.9
15°	3074.7	3073.0	3037.0	3035.3	3054.2	3057.6	3124.4	3230.7	3340.4	3467.2	3606.0
17.5°	3115.9	3102.2	3007.9	2949.6	2937.6	2941.0	2990.7	3107.3	3223.8	3369.5	3535.8
20°	3342.1	3289.0	3067.9	2927.3	2887.9	2887.9	2917.1	3011.3	3139.9	3309.5	3518.6
22.5°	3878.5	3796.3	3325.0	3074.7	2935.9	2922.2	2899.9	2971.9	3114.1	3318.1	3588.9
25°	4553.8	4514.4	3796.3	3467.2	3181.0	3136.4	2989.0	3014.7	3167.3	3410.7	3780.9
27.5°	5179.4	5110.8	4415.0	4037.9	3633.5	3564.9	3253.0	3148.4	3294.1	3582.0	4058.5
30°	5544.5	5498.2	5050.9	4690.9	4209.3	4121.9	3674.6	3412.4	3520.3	3864.8	4452.7
32.5°	5942.1	5914.7	5688.4	5361.1	4833.2	4732.1	4219.6	3842.6	3866.5	4240.2	4927.5
35°	6327.7	6363.7	6235.2	5995.2	5505.0	5410.8	4951.4	4404.7	4293.3	4661.8	5434.8
37.5°	6790.5	6799.0	6718.5	6562.5	6211.2	6134.0	5755.3	5004.6	4757.8	5110.8	5924.9
40°	7714.2	7578.8	7263.5	7140.1	6931.0	6883.0	6451.1	5554.7	5189.7	5571.9	6387.7
42.5°	8713.4	8502.6	8009.0	7806.8	7722.8	7678.3	7030.4	5921.5	5594.2	6032.9	6841.9
45°	9519.0	9347.6	8864.3	8614.0	8624.3	8552.3	7536.0	6248.9	6032.9	6495.7	7349.2
47.5°	10312.5	10026.3	9484.7	9448.7	9568.7	9462.4	8019.3	6576.2	6490.5	6999.6	7856.5
50°	10363.9	10103.4	9884.0	10172.0	10377.6	10245.7	8458.1	7004.7	6965.3	7609.7	8511.2
52.5°	9738.4	9700.7	10034.9	10519.9	10861.0	10742.7	8816.3	7445.2	7450.3	8372.4	9308.2
55°	9510.4	9462.4	9863.5	10459.9	10920.9	10850.7	9083.6	7942.2	7988.5	9297.9	10163.4
57.5°	9894.3	9774.3	9853.2	10346.8	10780.4	10739.3	9361.3	8494.1	8578.0	10363.9	10953.5
60°	11085.5	10840.4	10422.2	10514.8	10785.5	10761.6	9758.9	9109.4	9249.9	11474.5	11454.0
62.5°	12869.6	12592.0	11740.2	11328.9	11268.9	11222.6	10415.3	9865.2	9935.5	12276.6	11162.6
65°	14826.9	14528.7	13515.8	12842.2	12489.2	12389.8	11474.5	10777.0	10336.5	12274.9	10028.0
67.5°	17024.1	16708.8	15699.3	15056.6	14674.4	14504.7	13193.6	11514.0	10206.3	11236.3	8024.5
70°	19274.5	18974.5	18511.8	18736.3	18904.3	18645.5	15901.5	11759.0	9270.5	8809.4	5388.5
72.5°	18079.9	18055.9	18407.2	20535.9	23773.5	23824.9	18606.1	11066.6	7162.4	5236.0	2872.5
73°	16971.0	17072.1	17723.4	20270.2	24189.9	24207.1	18659.2	10708.4	6576.2	4511.0	2522.9
75°	8792.3	9477.8	11894.4	16436.3	22398.9	22479.5	16448.3	8106.7	3919.7	2505.7	1700.2
77.5°	2354.9	2324.0	3832.3	8007.3	14933.2	14826.9	10393.1	3924.8	1878.4	1571.6	1192.9
80°	807.2	817.5	1304.3	2929.0	6970.4	7218.9	4511.0	1712.2	1235.7	1095.2	845.0
82.5°	411.3	425.0	682.1	1246.0	2915.3	2853.6	1451.7	1007.8	827.8	665.0	473.0
85°	219.4	226.2	375.3	646.1	1069.5	1081.5	510.7	538.2	526.2	377.1	233.1
87.5°	108.0	111.4	180.0	284.5	395.9	382.2	178.2	233.1	258.8	212.5	128.5
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°	4085.9	4085.9	4085.9	4085.9	4085.9	4085.9	4085.9	4085.9	4085.9	4085.9	4085.9
2.5°	4058.5	4058.5	4080.8	4118.5	4145.9	4171.6	4188.8	4216.2	4231.6	4229.9	4228.2
5°	4031.1	4048.2	4092.8	4139.1	4169.9	4190.5	4190.5	4202.5	4202.5	4197.3	4190.5
7.5°	3967.7	3996.8	4061.9	4103.1	4111.6	4089.4	4044.8	4010.5	3967.7	3945.4	3936.8
10°	3866.5	3904.3	3986.5	4005.4	3960.8	3882.0	3774.0	3681.4	3599.2	3561.5	3549.5
12.5°	3767.1	3816.8	3894.0	3864.8	3758.6	3604.3	3438.1	3311.2	3218.7	3182.7	3170.7
15°	3684.9	3744.9	3804.8	3714.0	3528.9	3314.7	3131.3	3013.0	2942.8	2915.3	2908.5
17.5°	3630.0	3700.3	3720.9	3551.2	3294.1	3054.2	2891.3	2814.2	2783.4	2771.4	2767.9
20°	3633.5	3712.3	3662.6	3393.5	3067.9	2826.2	2718.2	2696.0	2696.0	2696.0	2694.2
22.5°	3727.7	3796.3	3638.6	3246.1	2850.2	2634.3	2588.0	2606.8	2620.5	2620.5	2618.8
25°	3923.1	3960.8	3655.7	3103.9	2646.3	2468.0	2469.7	2505.7	2517.7	2517.7	2514.3
27.5°	4221.3	4190.5	3686.6	2946.2	2445.7	2317.2	2341.2	2373.7	2382.3	2377.2	2375.5
30°	4595.0	4471.6	3712.3	2761.1	2257.2	2176.6	2197.2	2216.1	2209.2	2197.2	2195.5
32.5°	5013.1	4757.8	3696.9	2553.7	2091.0	2031.0	2043.0	2053.2	2043.0	2013.8	2013.8
35°	5427.9	5016.6	3612.9	2327.5	1959.0	1890.4	1888.7	1921.3	1919.6	1885.3	1887.0
37.5°	5791.3	5220.5	3450.1	2120.1	1845.9	1787.6	1794.4	1815.0	1825.3	1779.0	1773.9
40°	6108.3	5361.1	3220.4	1943.6	1755.0	1758.5	1739.6	1707.0	1695.0	1674.5	1671.0
42.5°	6406.5	5458.8	2977.0	1796.2	1708.8	1748.2	1684.8	1607.6	1575.1	1593.9	1605.9
45°	6699.6	5568.4	2742.2	1674.5	1650.5	1717.3	1629.9	1544.2	1506.5	1515.1	1527.1
47.5°	7057.8	5721.0	2459.4	1544.2	1561.4	1660.8	1595.6	1503.1	1446.5	1412.3	1402.0
50°	7529.1	5942.1	2092.7	1403.7	1467.1	1599.1	1566.5	1443.1	1381.4	1312.8	1295.7
52.5°	8118.7	6151.2	1722.5	1290.6	1390.0	1545.9	1518.5	1391.7	1316.3	1234.0	1220.3
55°	8706.6	6180.3	1403.7	1192.9	1302.6	1474.0	1460.2	1350.6	1244.3	1177.4	1163.7
57.5°	9117.9	5904.4	1189.4	1110.6	1218.6	1384.8	1407.1	1300.8	1184.3	1132.9	1124.3
60°	9124.8	5244.5	1059.2	1055.8	1155.2	1307.7	1352.3	1242.6	1146.6	1112.3	1105.5
62.5°	8399.8	4226.5	975.2	1014.6	1108.9	1244.3	1311.1	1210.0	1138.0	1124.3	1117.5
65°	7040.7	3122.7	908.4	976.9	1066.0	1191.2	1276.9	1199.7	1134.6	1129.5	1124.3
67.5°	5198.2	2140.7	851.8	928.9	1018.1	1136.3	1244.3	1184.3	1114.0	1134.6	1127.7
70°	3270.1	1429.4	798.7	874.1	954.6	1072.9	1201.4	1156.9	1088.3	1076.3	1054.0
72.5°	1845.9	1033.5	735.3	803.8	872.4	988.9	1143.2	1110.6	1030.1	982.1	959.8
73°	1667.6	978.6	719.8	786.7	853.5	971.8	1129.5	1096.9	1012.9	959.8	939.2
75°	1220.3	800.4	649.6	716.4	774.7	892.9	1064.3	1028.3	937.5	874.1	860.4
77.5°	884.4	617.0	558.7	618.7	670.1	783.3	966.6	925.5	836.4	802.1	788.4
80°	637.6	467.9	462.8	521.0	565.6	680.4	862.1	819.2	733.5	834.7	812.4
82.5°	380.5	299.9	339.4	404.5	450.8	570.7	749.0	699.3	617.0	623.9	531.3
85°	181.7	169.7	210.8	265.7	298.2	390.8	623.9	584.4	493.6	404.5	395.9
87.5°	80.6	77.1	101.1	118.3	159.4	234.8	426.8	378.8	358.2	214.2	168.0
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)