

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: P196385

Luminaire Tested: **NAV-AF-05-D-UNV-T4W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196385
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24127)
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-T4W
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 4000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 30397 lumens
Efficiency: N/A
Efficacy: 108.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G5

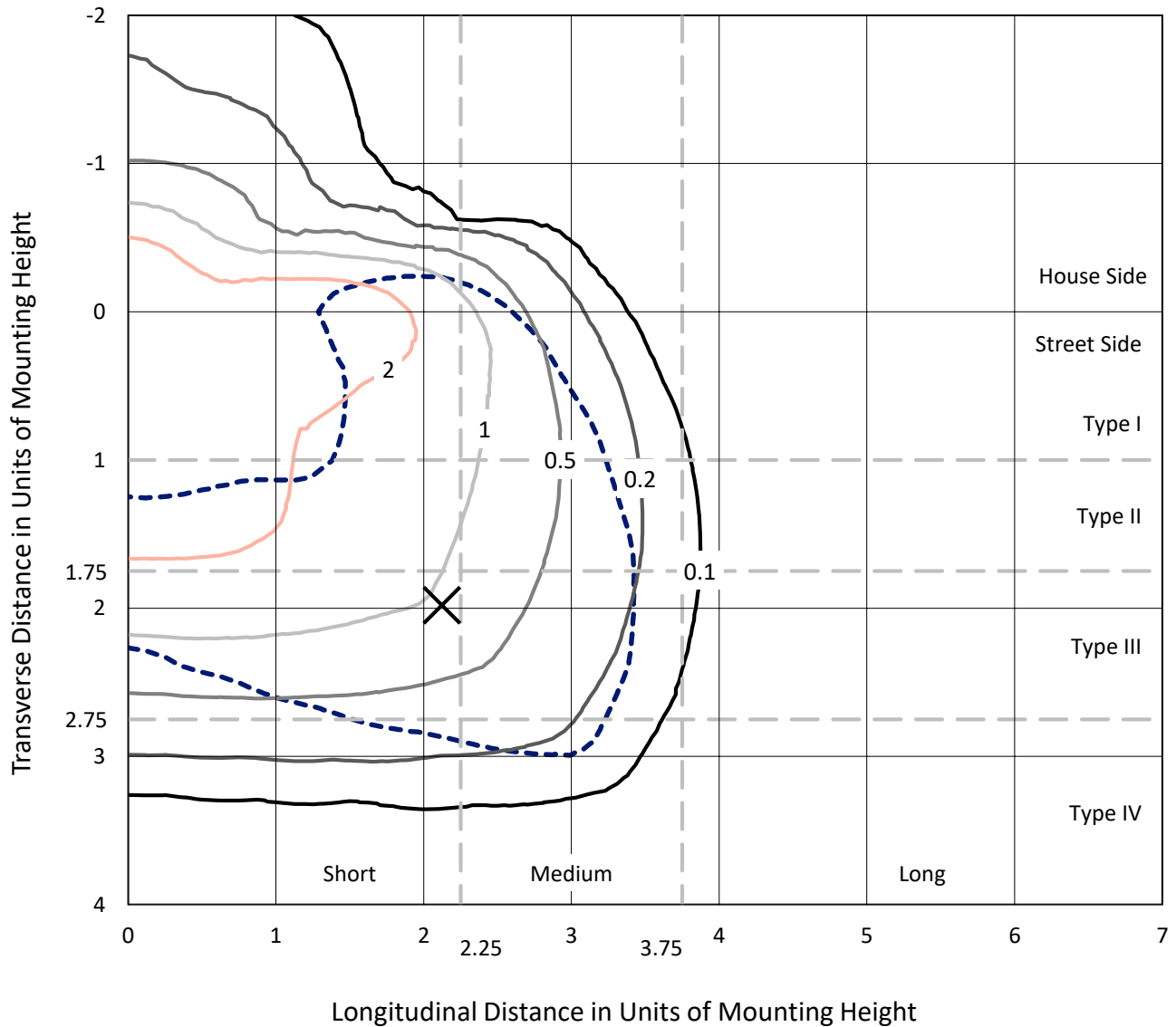
Input Watts (W): 279
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

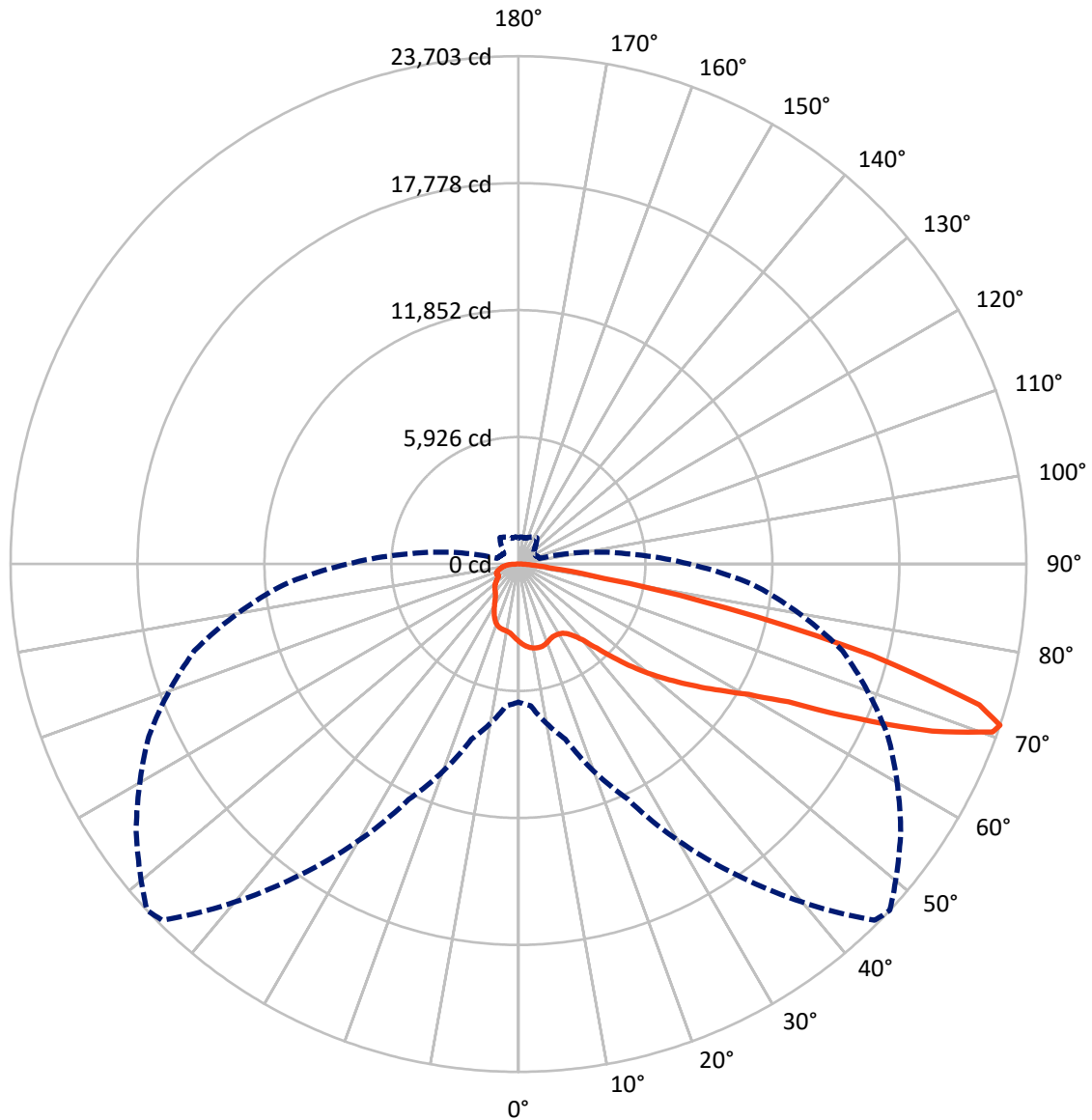
✕ Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 4.6 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 47-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	6514.5	0.0	6514.5
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	23882.5	0.0	23882.5
	% Fixture	78.6	0.0	78.6
Total	Lumens	30397.0	0.0	30397.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	345.1	1.1
10°-20°	1009.7	3.3
20°-30°	1500.4	4.9
30°-40°	2154.3	7.1
40°-50°	3819.7	12.6
50°-60°	6536.0	21.5
60°-70°	9278.9	30.5
70°-80°	5082.0	16.7
80°-90°	670.8	2.2
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°	30397.0	100.0
0°-180°	30397.0	100.0



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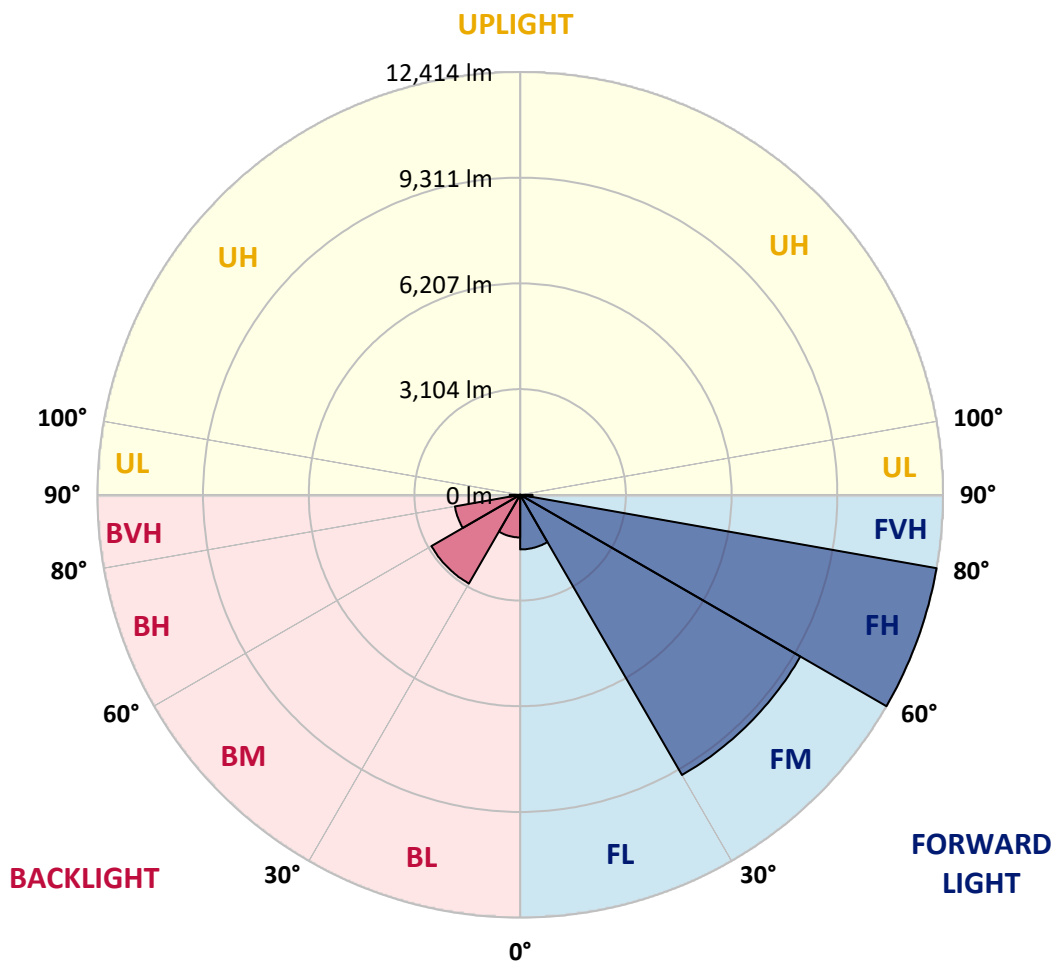
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1604.2	5.3			
FM	(30°-60°)	9500.0	31.3			
FH	(60°-80°)	12414.4	40.8			G5
FVH	(80°-90°)	363.9	1.2			G3/500
BL	(0°-30°)	1251.0	4.1	B3/2500		
BM	(30°-60°)	3010.1	9.9	B3/5000		
BH	(60°-80°)	1946.5	6.4	B3/2500		G3/2500
BVH	(80°-90°)	307.0	1.0			G3/500
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G5

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	3614.7	3614.7	3614.7	3614.7	3614.7	3614.7	3614.7	3614.7	3614.7	3614.7	3614.7
2.5°	3835.3	3827.5	3831.4	3817.7	3784.1	3748.7	3748.7	3711.3	3671.9	3632.4	3589.1
5°	4073.7	4061.8	4052.0	4008.6	3943.7	3870.7	3859.0	3784.1	3703.4	3622.6	3543.8
7.5°	4272.7	4260.8	4231.2	4152.5	4057.9	3949.6	3935.8	3837.3	3730.9	3618.7	3508.3
10°	4414.4	4406.6	4349.5	4249.0	4138.7	4010.7	3987.1	3886.6	3760.5	3620.6	3480.8
12.5°	4493.3	4481.4	4412.5	4294.3	4164.3	4034.3	4010.7	3914.1	3770.3	3616.6	3453.2
15°	4461.8	4455.9	4390.8	4270.7	4140.7	4028.4	4008.6	3910.2	3764.5	3602.9	3427.6
17.5°	4327.8	4341.6	4290.4	4172.2	4065.8	3987.1	3965.4	3872.8	3734.9	3569.4	3388.2
20°	4142.6	4158.4	4132.8	4012.6	3951.6	3900.3	3888.5	3813.7	3685.6	3520.2	3340.9
22.5°	3945.6	3959.4	3961.4	3849.2	3829.4	3809.8	3799.9	3746.7	3642.3	3490.6	3309.3
25°	3809.8	3825.5	3829.4	3730.9	3742.8	3748.7	3746.7	3709.2	3634.4	3490.6	3313.3
27.5°	3774.3	3782.2	3778.2	3687.6	3709.2	3742.8	3744.7	3736.8	3665.9	3530.0	3368.5
30°	3896.4	3900.3	3851.1	3715.2	3736.8	3780.2	3782.2	3778.2	3733.0	3632.4	3492.6
32.5°	4424.4	4420.4	4251.0	3900.3	3825.5	3841.3	3847.1	3882.6	3886.6	3801.9	3671.9
35°	5228.0	5226.1	5029.0	4430.2	4077.6	3994.9	4002.8	4057.9	4107.1	4050.1	3975.2
37.5°	6112.5	6118.4	5998.3	5186.7	4621.3	4276.5	4268.7	4310.1	4398.7	4418.4	4428.3
40°	7093.6	7123.0	7117.2	6055.4	5383.7	4757.2	4678.5	4631.2	4802.5	4910.9	5050.7
42.5°	8214.4	8206.5	8210.4	7008.7	6254.3	5513.7	5367.9	5147.3	5346.2	5533.3	5840.6
45°	9177.6	9209.1	9232.7	8023.3	7229.4	6378.4	6230.7	5828.9	6008.1	6287.9	6756.7
47.5°	10146.8	10091.6	10135.0	9152.0	8314.9	7365.3	7174.3	6632.5	6800.0	7194.0	7907.1
50°	11275.6	11249.9	11053.0	10625.5	9626.8	8366.0	8115.9	7471.7	7716.0	8241.9	9327.4
52.5°	12288.1	12150.2	11996.6	11783.8	10917.0	9378.5	9061.4	8344.4	8793.5	9445.5	11090.3
55°	12658.4	12565.8	12751.0	13026.8	12282.2	10410.8	10056.2	9362.8	10008.9	10822.5	13164.7
57.5°	13052.3	13083.8	13501.5	14058.9	13574.4	11511.9	11127.8	10568.3	11342.5	12362.9	15483.2
60°	13249.4	13375.4	14208.7	15254.7	14803.5	12719.5	12351.1	11953.2	12821.9	14064.9	17795.8
62.5°	13282.8	13452.2	14632.2	15674.3	16495.7	14569.2	14143.6	13712.2	14669.6	15946.1	19470.2
65°	12668.2	12928.3	14594.7	16190.3	18038.1	17659.9	17390.0	16637.5	17143.7	17602.7	19755.8
67.5°	10861.9	11145.6	13150.9	15977.6	19275.2	20866.9	20815.6	19704.6	19054.5	18243.0	17638.2
70°	7972.1	8200.6	10127.1	13659.1	18735.4	23384.3	23475.0	21692.2	19588.4	16883.7	13115.4
71°	6447.4	6644.4	8460.6	12126.5	17683.5	23514.4	23703.4	21780.9	19032.9	15656.6	10980.0
72.5°	4012.6	4122.9	5618.0	9152.0	15227.1	22174.8	22494.0	20646.2	17283.7	13233.6	7761.3
75°	1514.8	1558.2	2084.2	4036.3	9089.0	16659.2	17045.3	15603.4	12142.3	7554.5	3248.3
77.5°	813.6	835.2	1034.2	1678.4	3642.3	9550.0	10046.3	8899.9	5824.9	2643.6	1327.7
80°	545.6	559.5	715.0	994.8	1674.4	3636.4	4050.1	3573.4	2180.6	1509.0	945.5
82.5°	352.6	360.5	486.5	654.0	1081.5	1278.5	1459.6	1524.7	1361.1	1081.5	571.2
85°	232.4	238.3	321.1	417.6	669.7	630.3	646.1	845.1	927.8	713.1	291.5
87.5°	133.9	137.9	193.0	214.7	301.4	236.4	256.0	401.8	551.6	464.9	167.5
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°	3614.7	3614.7	3614.7	3614.7	3614.7	3614.7	3614.7	3614.7	3614.7	3614.7	3614.7
2.5°	3569.4	3553.6	3518.2	3496.5	3486.6	3482.7	3478.7	3486.6	3486.6	3482.7	3474.9
5°	3504.4	3474.9	3415.7	3374.4	3352.7	3346.8	3354.7	3364.6	3370.4	3370.4	3364.6
7.5°	3457.2	3413.8	3335.0	3277.8	3244.4	3234.6	3256.2	3291.7	3315.3	3327.1	3329.1
10°	3417.7	3358.7	3271.9	3212.9	3185.3	3181.4	3208.9	3254.2	3303.5	3325.1	3329.1
12.5°	3382.3	3315.3	3220.8	3165.6	3145.9	3155.7	3193.1	3234.6	3291.7	3323.2	3325.1
15°	3348.7	3279.8	3179.3	3122.3	3118.3	3134.0	3169.5	3203.0	3246.3	3285.7	3285.7
17.5°	3309.3	3234.6	3130.1	3076.9	3076.9	3090.7	3114.4	3132.1	3159.7	3197.1	3195.1
20°	3262.1	3185.3	3078.9	3023.7	3012.0	3004.1	3004.1	3008.0	3031.6	3065.1	3071.0
22.5°	3226.7	3147.8	3035.6	2968.6	2915.4	2864.2	2842.5	2834.6	2856.3	2887.8	2895.7
25°	3226.7	3147.8	3021.8	2909.5	2779.5	2680.9	2639.6	2627.8	2649.4	2679.0	2690.9
27.5°	3279.8	3201.0	3053.3	2856.3	2617.9	2460.4	2411.1	2401.3	2421.0	2444.6	2456.4
30°	3404.0	3327.1	3143.9	2795.2	2438.7	2231.9	2176.7	2166.8	2176.7	2186.6	2200.4
32.5°	3610.8	3545.8	3291.7	2740.1	2257.4	2025.0	1958.0	1942.3	1946.3	1948.2	1960.0
35°	3947.7	3918.1	3488.7	2675.1	2086.1	1855.6	1786.7	1755.2	1753.1	1763.1	1776.9
37.5°	4463.7	4481.4	3742.8	2580.5	1944.2	1735.4	1666.5	1635.0	1619.2	1639.0	1654.7
40°	5192.6	5233.9	4036.3	2452.5	1828.0	1664.5	1591.6	1562.1	1540.5	1534.5	1542.4
42.5°	6140.1	6128.3	4335.7	2289.0	1702.0	1617.3	1540.5	1509.0	1473.5	1428.1	1418.3
45°	7263.0	7093.6	4585.9	2088.0	1558.2	1572.0	1493.2	1449.8	1394.7	1327.7	1319.8
47.5°	8588.6	8121.8	4739.5	1873.3	1424.3	1512.8	1440.0	1373.0	1292.2	1248.9	1243.0
50°	10186.2	9325.3	4847.9	1654.7	1304.1	1438.0	1365.1	1276.4	1197.7	1185.9	1183.9
52.5°	12077.3	10745.7	4981.8	1457.7	1209.5	1341.5	1290.2	1199.6	1136.6	1142.5	1142.5
55°	14088.5	12215.2	4985.8	1302.1	1126.8	1229.2	1235.1	1162.2	1113.0	1132.7	1138.5
57.5°	15922.4	13499.5	4593.8	1191.7	1048.0	1140.6	1217.4	1176.0	1138.5	1207.5	1213.4
60°	17522.0	14488.4	3750.6	1101.2	983.0	1107.0	1256.8	1260.7	1252.8	1440.0	1453.7
62.5°	18107.0	14498.3	2663.3	1024.4	947.5	1126.8	1339.6	1345.4	1345.4	1518.8	1544.3
65°	17287.6	13290.7	1772.9	979.1	923.8	1170.2	1406.5	1380.9	1319.8	1440.0	1412.4
67.5°	14399.8	10345.7	1296.2	949.5	890.4	1172.1	1465.6	1400.6	1296.2	1398.6	1351.3
70°	9896.6	6583.3	1085.4	921.9	851.0	1120.8	1497.1	1394.7	1260.7	1304.1	1241.0
71°	7966.1	5253.7	1030.2	912.1	835.2	1091.3	1501.1	1386.8	1243.0	1270.6	1213.4
72.5°	5247.7	3236.5	963.3	890.4	811.6	1040.1	1491.2	1369.0	1219.4	1221.3	1183.9
75°	2070.4	1341.5	866.7	841.2	744.6	957.4	1447.9	1331.7	1174.0	1134.7	1118.9
77.5°	1046.0	876.6	762.3	772.2	665.8	872.7	1386.8	1270.6	1111.0	1057.8	1046.0
80°	764.3	665.8	652.0	669.7	577.1	789.9	1310.0	1187.9	1030.2	1085.4	1061.7
82.5°	464.9	405.8	510.1	553.5	482.6	705.2	1219.4	1091.3	927.8	854.9	827.4
85°	220.7	238.3	368.4	407.7	356.5	563.3	1114.9	984.9	809.7	699.3	711.2
87.5°	108.3	132.0	210.7	244.3	234.5	413.7	841.2	764.3	638.2	526.0	514.1
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)