

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: P196032

Luminaire Tested: **NAV-AF-06-D-UNV-AFL-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196032
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24160)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-06-D-UNV-AFL-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 4000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 41418.3 lumens
Efficiency: N/A
Efficacy: 108.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B3 - U0 - G3

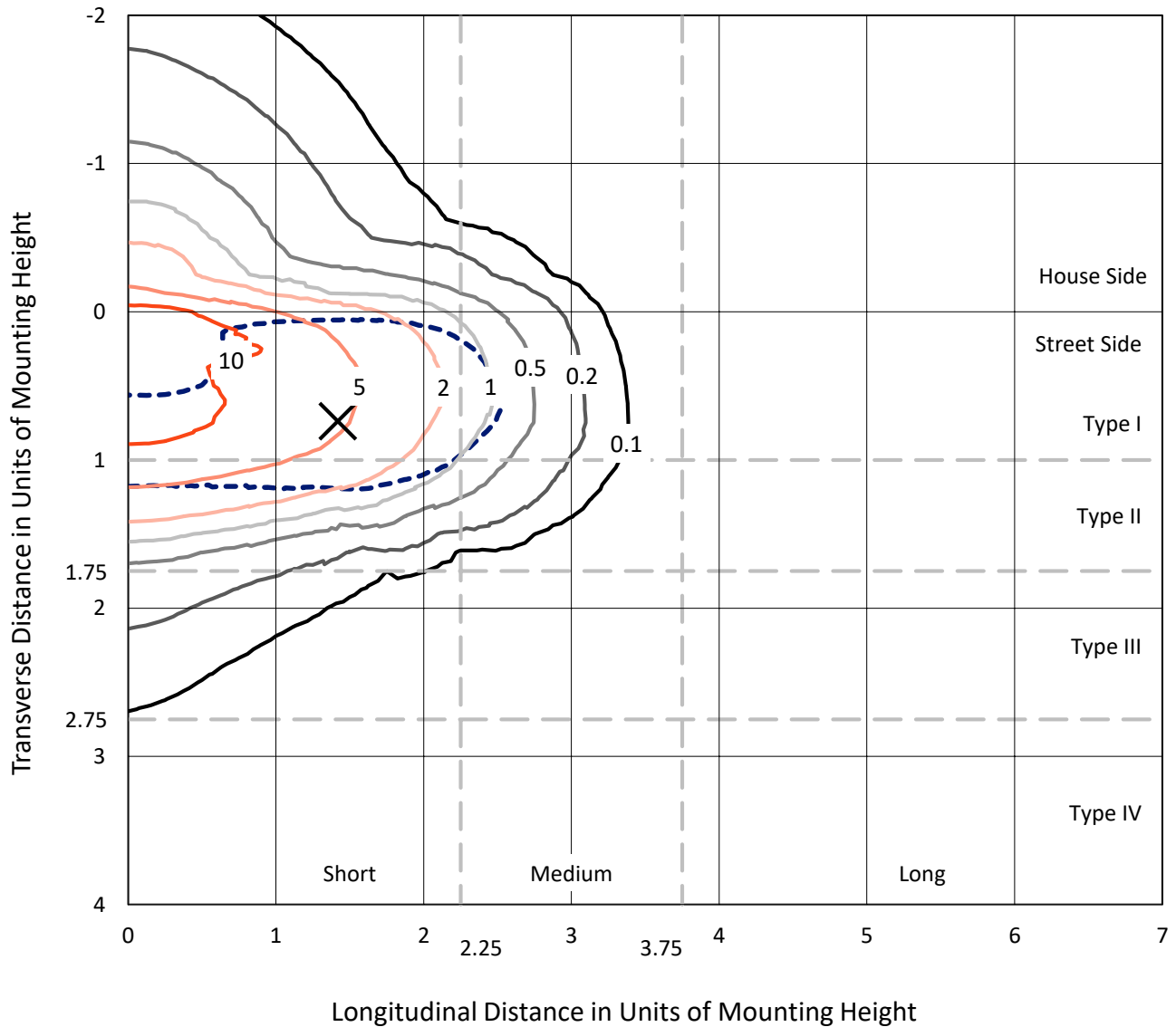
Input Watts (W): 382
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

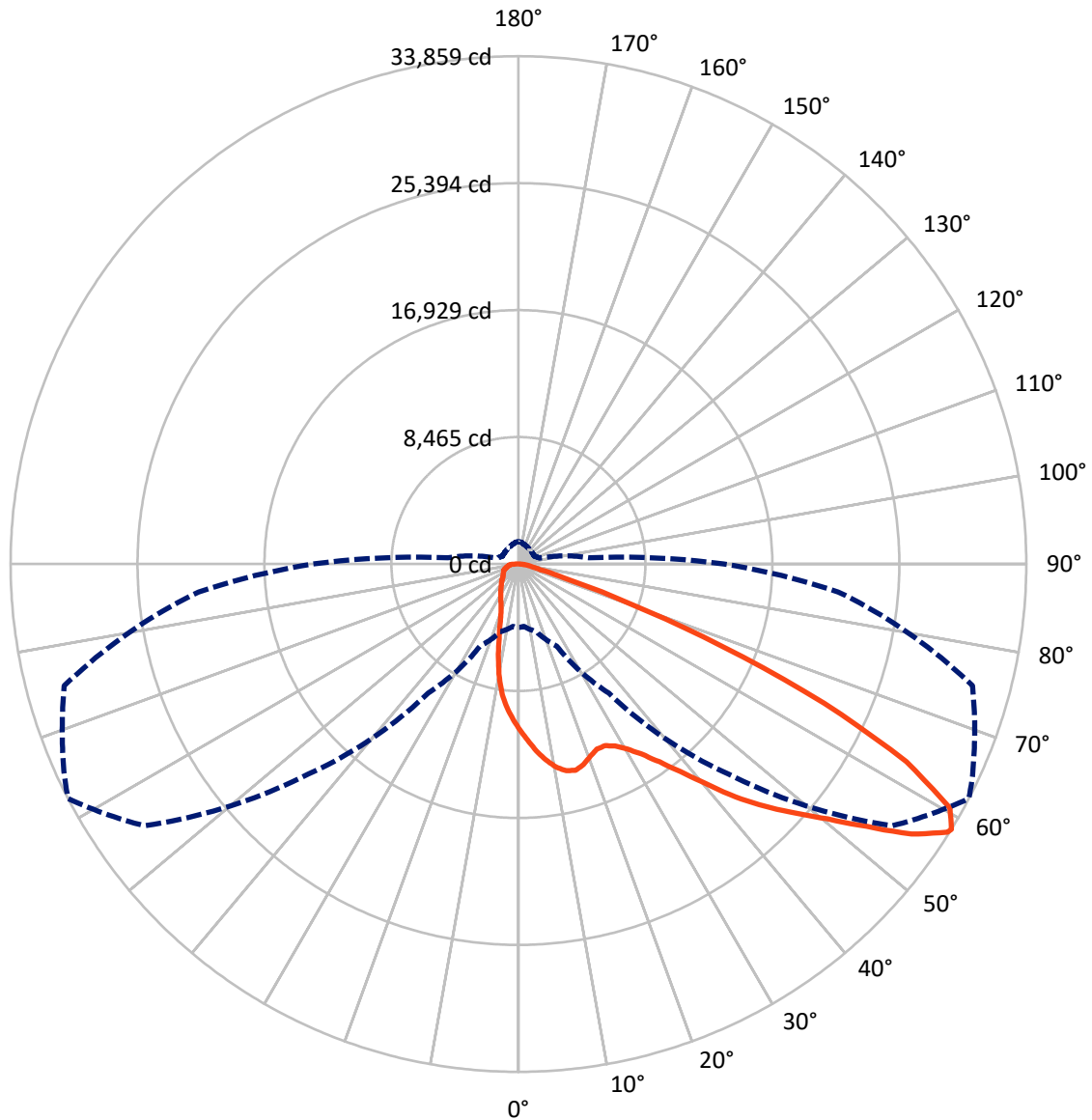
✕ Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 14.4 fc
 Type II - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 62.5-Deg Lateral - - - Horizontal Cone Through 58-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	6359.3	0.0	6359.3
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	35059.0	0.0	35059.0
	% Fixture	84.6	0.0	84.6
Total	Lumens	41418.3	0.0	41418.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	988.4	2.4
10°-20°	2494.6	6.0
20°-30°	4042.7	9.8
30°-40°	6454.6	15.6
40°-50°	9388.4	22.7
50°-60°	9824.1	23.7
60°-70°	5989.1	14.5
70°-80°	1674.9	4.0
80°-90°	561.4	1.4
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°	41418.3	100.0
0°-180°	41418.3	100.0



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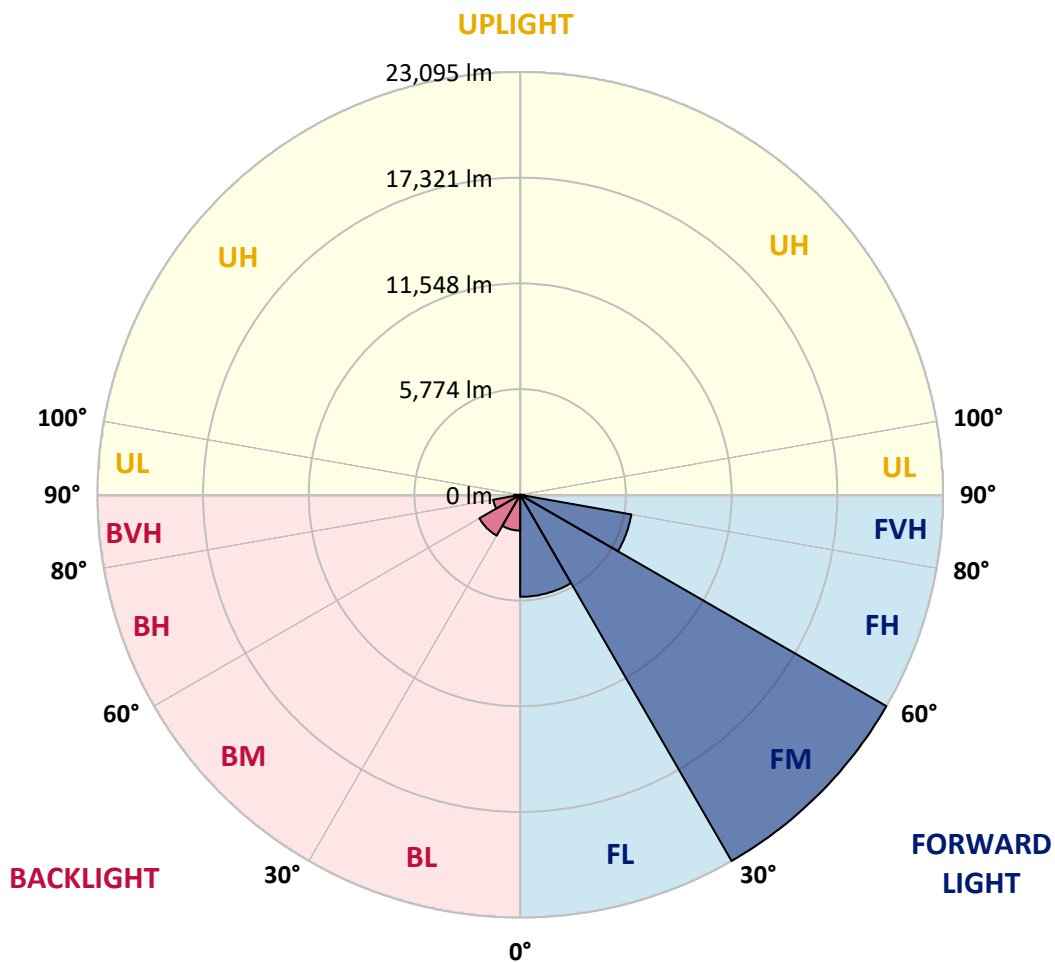
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	5570.9	13.5			
FM	(30°-60°)	23095.3	55.8			
FH	(60°-80°)	6166.9	14.9			G3/7500
FVH	(80°-90°)	225.9	0.5			G3/500
BL	(0°-30°)	1954.9	4.7	B3/2500		
BM	(30°-60°)	2571.8	6.2	B3/5000		
BH	(60°-80°)	1497.1	3.6	B3/2500		G3/2500
BVH	(80°-90°)	335.6	0.8			G3/500
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	11058.4	11058.4	11058.4	11058.4	11058.4	11058.4	11058.4	11058.4	11058.4	11058.4	11058.4
2.5°	12552.0	12544.2	12438.2	12368.2	12285.4	12093.8	11902.2	11759.9	11687.4	11410.4	11141.3
5°	13590.0	13559.0	13499.5	13424.4	13315.6	13074.9	12772.1	12510.6	12407.1	11915.2	11420.8
7.5°	13041.3	13090.4	13274.2	13481.3	13698.7	13714.3	13499.5	13188.8	13074.9	12417.4	11692.6
10°	11521.8	11501.0	11731.4	12135.3	12852.3	13561.6	13916.2	13763.5	13644.4	12893.7	11964.4
12.5°	11061.0	11055.8	11094.6	11198.1	11648.6	12621.9	13810.0	14141.4	14099.9	13398.5	12254.3
15°	11200.8	11205.9	11203.4	11216.3	11340.5	11803.9	13217.2	14268.2	14397.6	13898.1	12549.5
17.5°	11648.6	11630.4	11573.6	11511.4	11529.5	11695.2	12577.9	14050.8	14439.1	14343.3	12797.9
20°	12339.8	12339.8	12187.0	12013.6	11899.7	11935.9	12311.3	13678.1	14247.6	14721.3	12984.3
22.5°	13206.9	13219.9	12994.6	12678.9	12420.0	12321.6	12464.0	13401.1	14014.5	15070.7	13149.9
25°	14283.8	14281.2	13952.4	13499.5	13090.4	12854.9	12852.3	13414.1	13942.1	15479.7	13323.4
27.5°	15616.9	15495.2	15112.2	14467.6	13890.3	13530.5	13367.4	13740.2	14094.8	15981.9	13556.3
30°	17120.8	16996.6	16494.4	15666.1	14884.3	14358.9	14089.6	14304.4	14560.8	16621.2	13908.4
32.5°	18609.3	18637.8	18047.5	17113.0	16108.7	15368.4	14969.8	15101.7	15280.3	17403.1	14384.7
35°	20788.8	20786.3	20014.9	18847.5	17654.1	16629.0	16124.3	16194.1	16357.2	18505.7	15052.6
37.5°	22414.5	22388.6	21891.6	20858.8	19515.2	18285.8	17555.8	17566.1	17705.8	19890.7	15932.7
40°	22580.2	22575.0	22572.4	22424.8	21505.9	20346.2	19432.5	19243.4	19300.4	21361.0	16867.1
42.5°	21314.3	21503.3	22046.9	22880.4	23136.7	22528.3	21663.8	21241.9	21117.6	23048.7	17856.0
45°	19510.1	19605.9	20558.4	22432.6	23957.3	24578.5	23928.8	23038.4	22826.1	24689.8	18661.1
47.5°	18671.4	18630.0	19181.4	21223.8	23877.0	26209.3	26256.0	24796.0	24436.1	26105.8	19347.1
50°	16872.3	16818.0	17514.4	19445.4	23002.1	27019.6	28645.2	26711.5	26046.3	27451.9	19968.3
52.5°	13287.2	13235.3	14169.9	16657.5	21045.2	26716.7	30659.1	29061.9	27928.2	28748.7	20548.1
55°	8645.9	8651.0	9541.5	12106.7	17030.3	24951.3	31604.0	31777.4	30506.3	30045.6	21016.6
57.5°	4760.4	4716.4	5350.5	6927.0	11715.9	20941.5	30817.0	33734.4	33071.7	31158.7	21355.7
58°	4232.4	4180.6	4669.8	6028.8	10504.5	19810.4	30420.9	33858.5	33400.4	31342.5	21404.9
60°	3015.7	2927.7	2852.6	3398.8	6052.1	14283.8	27780.6	33053.6	33496.2	31710.0	21358.4
62.5°	2542.0	2441.1	2171.8	2151.1	2850.0	6986.5	21969.3	29028.3	30268.2	30863.7	20607.7
65°	2360.8	2259.8	1905.1	1778.4	1933.7	3015.7	13584.9	22414.5	24071.2	27920.4	18718.0
67.5°	2231.4	2112.3	1731.8	1566.1	1597.1	1804.3	5764.7	14659.1	16579.9	21772.5	15016.3
70°	2114.8	1982.9	1594.6	1403.0	1377.1	1372.0	2252.0	7654.4	9505.3	14247.6	10059.2
72.5°	1982.9	1853.4	1472.9	1268.4	1211.5	1113.1	1353.9	3163.3	4335.9	6984.0	4610.2
75°	1791.3	1685.2	1338.3	1157.1	1058.8	903.4	999.2	1516.9	1868.9	2674.0	2140.7
77.5°	1576.5	1491.1	1201.1	1063.9	931.9	737.8	763.6	1027.7	1154.5	1506.6	1239.9
80°	1115.6	1146.7	1048.4	937.0	820.6	595.4	587.6	753.3	828.4	1012.1	833.5
82.5°	768.8	792.1	854.3	740.3	662.7	463.4	432.3	522.9	561.7	610.9	403.9
85°	548.8	533.3	592.8	530.7	486.6	295.1	277.0	331.3	354.7	372.8	194.2
87.5°	333.9	331.3	341.7	274.4	253.7	150.2	137.2	157.9	168.3	163.1	93.2
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°	11058.4	11058.4	11058.4	11058.4	11058.4	11058.4	11058.4	11058.4	11058.4	11058.4	11058.4
2.5°	11040.3	10913.5	10636.4	10413.8	10173.1	9989.3	9805.5	9702.0	9588.1	9523.4	9515.6
5°	11161.9	10903.1	10312.9	9764.1	9199.8	8692.4	8195.5	7827.8	7527.6	7356.8	7346.4
7.5°	11296.5	10890.1	9979.0	9029.0	8024.6	7025.4	6142.7	5518.8	5117.6	4931.2	4918.3
10°	11400.1	10835.8	9572.6	8094.5	6502.5	5182.4	4379.9	4012.3	3890.6	3859.6	3854.4
12.5°	11524.4	10796.9	9060.1	6896.0	4970.1	3945.0	3701.6	3678.3	3704.2	3719.8	3722.4
15°	11640.9	10721.9	8368.9	5568.0	3890.6	3525.6	3530.8	3580.0	3631.8	3655.1	3657.7
17.5°	11695.2	10538.1	7460.3	4387.6	3404.0	3336.7	3396.2	3460.9	3507.5	3525.6	3525.6
20°	11695.2	10243.0	6406.7	3554.1	3150.3	3163.3	3235.7	3284.9	3295.2	3279.7	3272.0
22.5°	11646.0	9878.0	5381.6	3101.1	2943.2	2992.4	3049.3	3015.7	2894.0	2800.8	2782.7
25°	11602.0	9445.7	4395.4	2824.2	2762.0	2826.7	2803.4	2573.0	2386.6	2290.9	2275.3
27.5°	11529.5	8922.8	3572.2	2596.4	2586.0	2637.8	2407.4	2184.7	2091.5	2039.8	2029.4
30°	11511.4	8356.0	2989.8	2394.4	2412.5	2340.1	2076.1	2003.6	1982.9	1954.3	1941.5
32.5°	11570.9	7789.1	2624.8	2228.8	2246.9	2008.8	1907.8	1918.1	1915.6	1879.3	1866.4
35°	11734.1	7237.7	2391.9	2078.6	2026.9	1799.1	1812.1	1843.1	1843.1	1799.1	1783.5
37.5°	12018.8	6725.1	2244.3	1951.8	1773.2	1690.3	1724.0	1765.4	1765.4	1734.3	1721.4
40°	12321.6	6225.6	2133.0	1850.8	1612.7	1615.2	1648.9	1680.0	1692.9	1698.1	1687.8
42.5°	12596.0	5707.9	2013.9	1742.1	1540.2	1558.4	1573.8	1597.1	1651.6	1687.8	1682.5
45°	12756.5	5187.5	1884.5	1607.5	1491.1	1498.8	1493.6	1535.0	1599.7	1654.1	1654.1
47.5°	12904.0	4760.4	1778.4	1472.9	1441.8	1441.8	1426.3	1467.7	1527.3	1592.0	1597.1
50°	13043.9	4483.4	1703.3	1369.3	1379.8	1372.0	1366.8	1405.6	1485.8	1563.5	1576.5
52.5°	13186.2	4390.2	1636.0	1294.3	1315.0	1304.7	1309.8	1364.2	1454.7	1535.0	1547.9
55°	13385.5	4449.7	1566.1	1242.5	1252.9	1250.3	1271.0	1333.1	1413.4	1493.6	1498.8
57.5°	13631.4	4667.2	1506.6	1203.7	1193.4	1208.8	1242.5	1302.0	1379.8	1475.5	1483.3
58°	13680.6	4719.0	1496.2	1193.4	1180.4	1203.7	1237.4	1294.3	1374.5	1475.5	1483.3
60°	13755.7	4902.8	1470.3	1172.6	1136.4	1177.8	1219.3	1276.1	1364.2	1488.4	1503.9
62.5°	13393.3	4939.0	1462.5	1149.3	1089.7	1141.6	1190.7	1255.5	1353.9	1532.5	1566.1
65°	12137.8	4566.2	1408.2	1110.5	1051.0	1113.1	1164.8	1239.9	1384.9	1664.4	1680.0
67.5°	9743.4	3792.3	1276.1	1051.0	1007.0	1079.4	1144.2	1239.9	1397.9	1685.2	1695.5
70°	6699.2	2850.0	1110.5	986.2	955.2	1038.0	1136.4	1268.4	1353.9	1594.6	1563.5
72.5°	3499.7	1982.9	973.3	911.1	893.0	1001.8	1211.5	1239.9	1302.0	1488.4	1457.4
75°	1762.9	1348.7	856.8	825.7	823.2	988.9	1356.4	1193.4	1247.7	1400.4	1467.7
77.5°	1040.6	1056.1	763.6	745.5	758.4	965.6	1359.0	1146.7	1185.6	1289.1	1361.5
80°	711.9	872.4	691.1	686.0	696.3	887.9	1252.9	1089.7	1113.1	1219.3	1296.9
82.5°	401.2	481.5	605.7	639.3	634.2	727.4	1082.0	991.4	1019.9	1441.8	1524.7
85°	194.2	289.9	507.4	597.9	541.0	484.1	880.1	880.1	887.9	1032.9	1045.8
87.5°	72.5	129.4	341.7	473.7	378.0	289.9	597.9	623.9	693.8	714.4	730.0
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)