

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: P196739

Luminaire Tested: **NAV-AF-05-D-UNV-T2-7030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196739
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24136)
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-T2-7030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 22999.1 lumens
Efficiency: N/A
Efficacy: 109.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B3 - U0 - G3

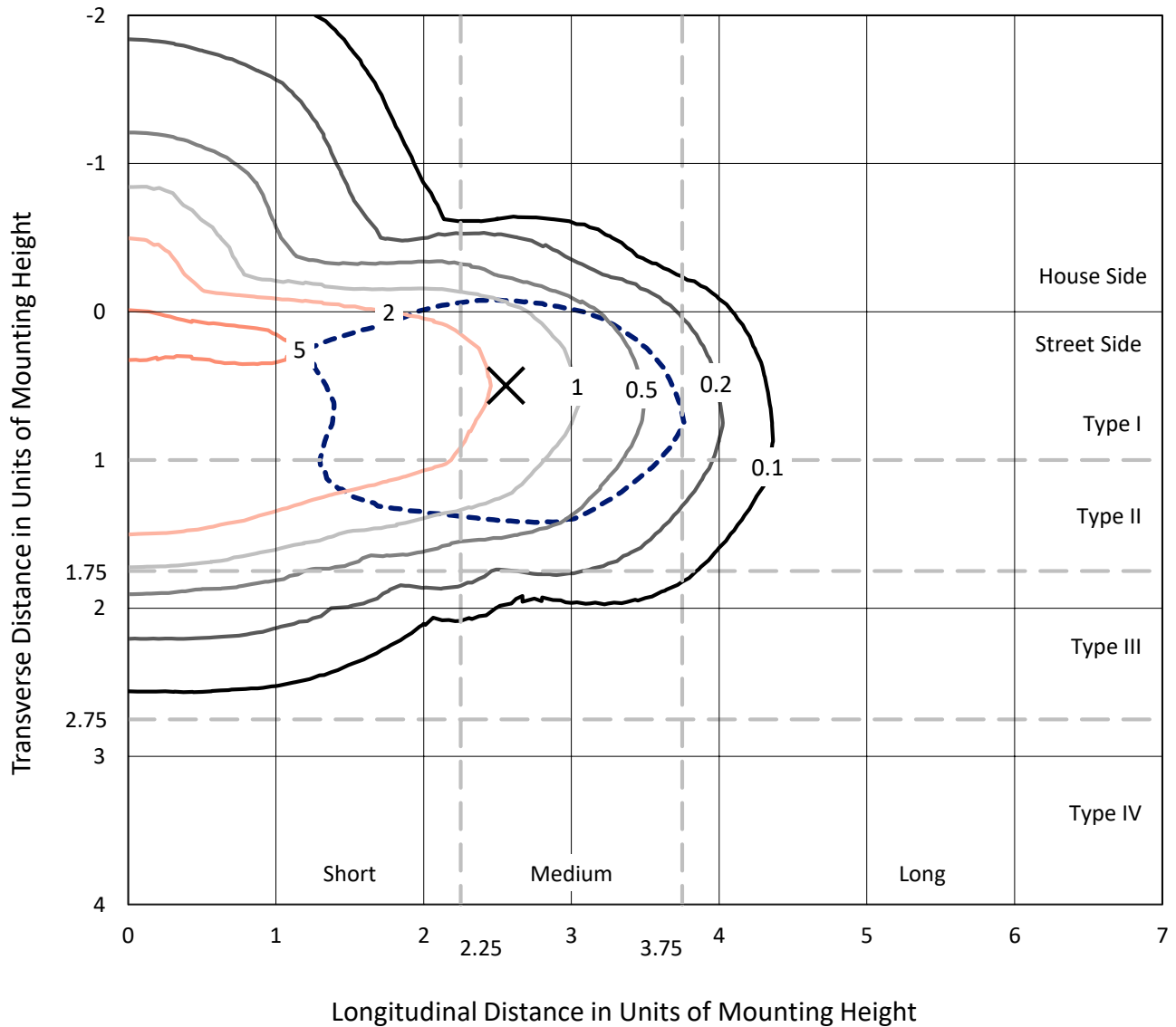
Input Watts (W): 210
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

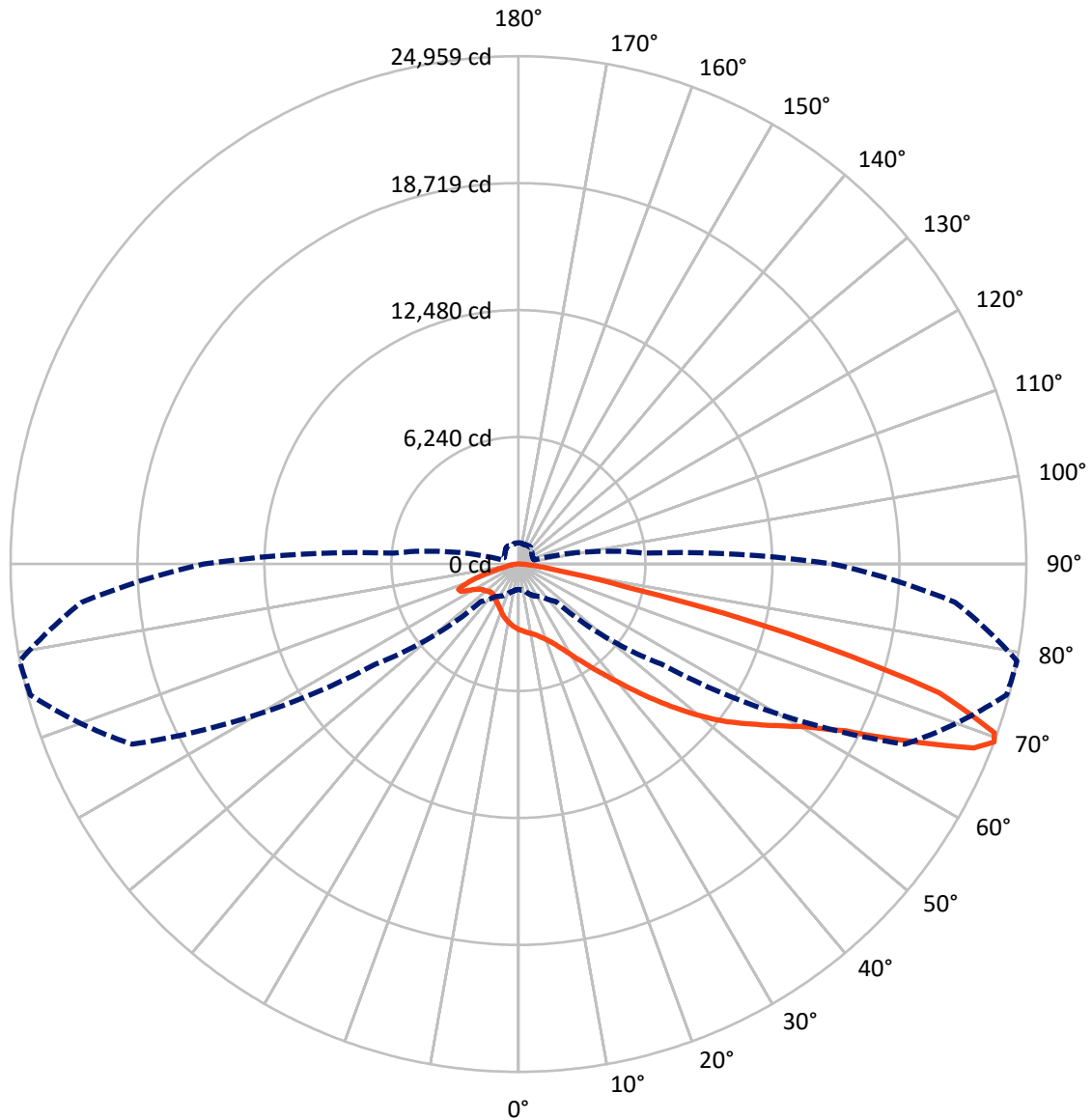
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.2 fc
 Type II - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4326.5	0.0	4326.5
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	18672.5	0.0	18672.5
	% Fixture	81.2	0.0	81.2
Total	Lumens	22999.1	0.0	22999.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	299.2	1.3
10°-20°	857.8	3.7
20°-30°	1417.5	6.2
30°-40°	2295.3	10.0
40°-50°	3666.7	15.9
50°-60°	5251.0	22.8
60°-70°	5850.4	25.4
70°-80°	2926.9	12.7
80°-90°	434.4	1.9
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°	22999.1	100.0
0°-180°	22999.1	100.0



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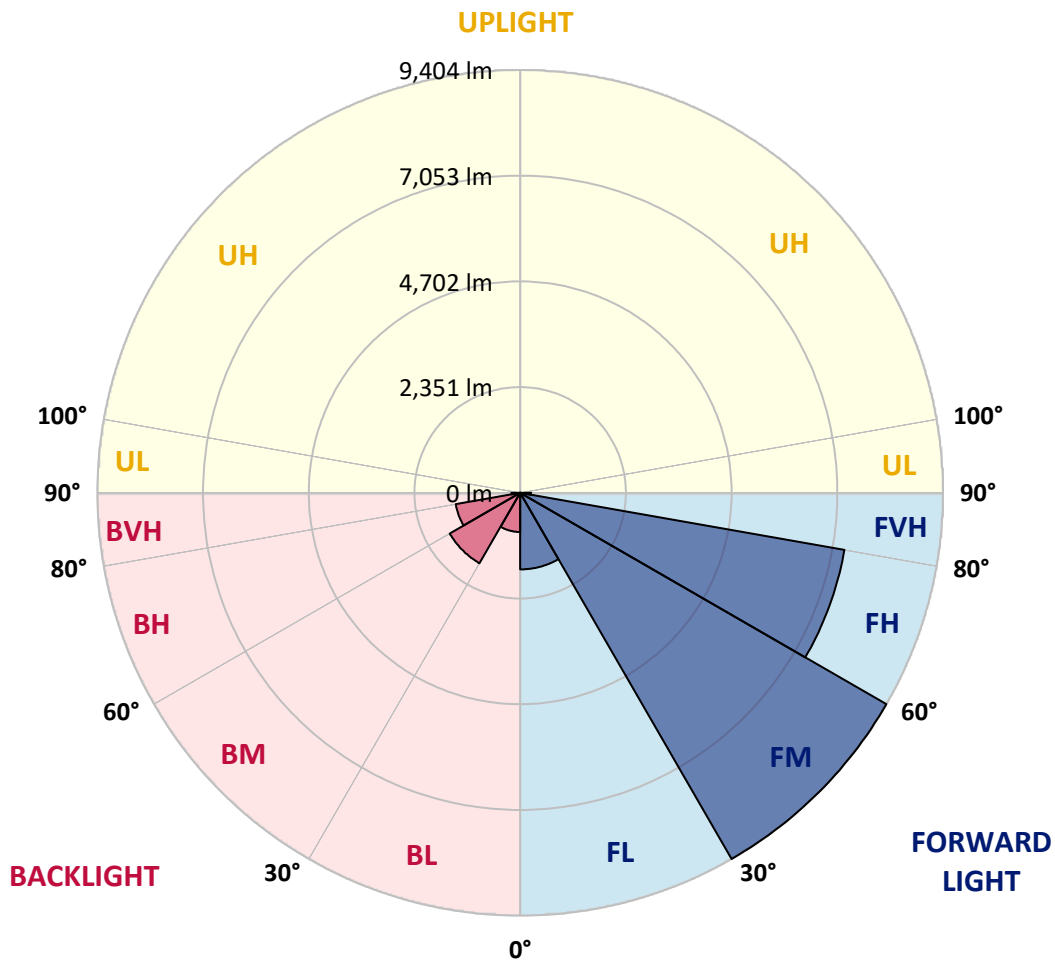
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1702.9	7.4			
FM	(30°-60°)	9404.4	40.9			
FH	(60°-80°)	7322.6	31.8			G3/7500
FVH	(80°-90°)	242.7	1.1			G3/500
BL	(0°-30°)	871.6	3.8	B2/1000		
BM	(30°-60°)	1808.6	7.9	B2/2500		
BH	(60°-80°)	1454.7	6.3	B3/2500		G3/2500
BVH	(80°-90°)	191.7	0.8			G2/225
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 Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	3227.5	3227.5	3227.5	3227.5	3227.5	3227.5	3227.5	3227.5	3227.5	3227.5	3227.5
2.5°	3543.5	3535.9	3534.4	3511.9	3499.8	3474.2	3414.1	3352.4	3295.3	3265.1	3233.5
5°	3839.9	3824.8	3817.3	3779.8	3746.6	3689.4	3594.6	3496.9	3394.4	3341.8	3278.7
7.5°	4019.0	4020.4	4020.4	3990.3	3957.3	3888.0	3767.7	3633.8	3481.8	3412.6	3313.3
10°	4034.0	4035.5	4058.1	4065.6	4073.0	4037.0	3925.6	3757.1	3561.6	3471.2	3341.8
12.5°	3885.0	3895.5	3933.3	3987.3	4064.1	4103.2	4055.0	3889.5	3663.9	3553.9	3396.0
15°	3684.9	3695.4	3743.6	3826.4	3949.7	4080.7	4148.3	4041.5	3797.8	3668.4	3475.7
17.5°	3587.1	3599.1	3632.3	3698.4	3818.8	3994.8	4198.0	4204.0	3955.7	3806.8	3570.6
20°	3540.4	3549.5	3591.6	3645.8	3737.5	3906.1	4202.5	4375.5	4143.8	3970.8	3686.4
22.5°	3647.3	3650.4	3671.3	3701.4	3763.1	3892.6	4199.5	4553.1	4378.6	4177.0	3835.3
25°	3960.3	3940.7	3925.6	3888.0	3903.1	3994.8	4247.7	4742.7	4679.5	4447.7	4034.0
27.5°	4330.4	4327.4	4288.3	4201.0	4145.3	4204.0	4384.6	4954.8	5048.1	4792.3	4294.3
30°	4742.7	4744.1	4703.6	4596.7	4483.9	4489.9	4602.8	5200.0	5488.9	5207.7	4614.8
32.5°	5174.5	5201.7	5126.3	5019.6	4882.6	4839.0	4915.7	5496.5	5999.1	5698.2	4986.5
35°	5690.7	5695.1	5612.4	5455.9	5319.0	5249.8	5320.5	5866.6	6587.4	6274.4	5439.4
37.5°	6226.2	6229.3	6143.5	5943.3	5770.4	5725.1	5803.6	6316.6	7210.3	6930.5	5972.0
40°	6664.2	6695.7	6628.0	6440.0	6265.4	6238.3	6351.1	6855.3	8006.3	7706.8	6605.5
42.5°	7160.7	7196.8	7115.5	6919.9	6781.5	6772.4	6948.6	7469.2	8797.8	8605.1	7323.2
45°	7720.4	7771.6	7658.7	7439.0	7321.7	7520.4	7530.8	8149.2	9709.6	9610.2	8131.2
47.5°	8331.3	8373.4	8281.7	8045.5	7917.5	8205.0	8101.1	8885.1	10695.2	10687.6	9005.3
50°	8802.3	8848.9	8857.9	8754.1	8620.2	8656.3	8727.1	9658.4	11677.6	11795.1	9909.7
52.5°	8716.4	8761.6	8964.7	9237.1	9452.2	9359.0	9444.8	10479.9	12627.1	12875.3	10768.8
55°	8024.3	8048.5	8429.2	9076.1	9992.5	10437.9	10443.9	11373.8	13529.9	13877.4	11584.4
57.5°	6777.1	6780.0	7275.0	8229.0	9677.9	11137.5	12020.7	12496.2	14471.8	14984.9	12595.5
60°	4795.4	4807.4	5383.6	6631.1	8550.9	11053.2	13716.5	14504.9	15562.7	16229.3	13898.6
62.5°	2846.9	2873.9	3308.7	4309.3	6351.1	9969.9	14718.7	18078.5	17169.6	18054.4	15984.0
65°	1852.3	1874.8	2135.2	2637.6	3752.6	7253.9	14389.1	21539.3	20210.6	20925.4	18981.3
67.5°	1426.4	1444.5	1649.2	1953.0	2302.1	3921.1	11504.7	22264.5	23912.1	24134.8	21510.6
69°	1253.4	1268.4	1418.8	1710.8	1938.0	2595.6	8573.6	20947.8	24837.5	24959.3	21542.2
70°	1161.7	1173.7	1315.1	1567.9	1780.1	2071.9	6561.8	19419.2	24498.8	24810.4	20920.9
72.5°	957.0	967.5	1068.3	1262.4	1455.0	1476.1	2907.0	14179.8	20628.9	21625.0	17703.9
75°	799.0	805.0	871.3	1012.7	1178.2	1175.2	1485.1	8031.8	12588.0	13775.2	10931.4
77.5°	666.6	671.1	714.7	802.0	929.9	925.3	1045.7	3466.7	5558.2	5362.7	3763.1
80°	588.4	591.3	613.9	636.4	717.8	713.3	774.8	1591.9	2261.5	2090.0	1423.4
82.5°	446.9	452.9	567.3	577.8	556.6	537.1	540.2	926.8	1158.5	1054.8	764.4
85°	252.8	254.2	364.2	425.8	484.4	364.2	350.6	478.4	571.8	501.1	334.0
87.5°	112.9	117.4	174.5	201.6	261.7	213.7	200.2	203.1	246.8	204.7	132.4
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°	3227.5	3227.5	3227.5	3227.5	3227.5	3227.5	3227.5	3227.5	3227.5	3227.5	3227.5
2.5°	3203.4	3177.8	3117.6	3056.0	2994.2	2955.1	2914.5	2876.9	2861.8	2860.4	2831.8
5°	3216.9	3156.8	3019.8	2869.3	2726.4	2615.1	2521.8	2461.6	2402.9	2392.4	2366.9
7.5°	3221.5	3123.7	2901.0	2660.3	2442.1	2288.6	2195.3	2154.7	2126.0	2118.5	2109.6
10°	3220.0	3081.5	2768.6	2439.1	2190.7	2075.0	2040.3	2049.3	2061.4	2067.4	2067.4
12.5°	3244.0	3062.0	2636.2	2231.4	2028.3	1972.5	1999.7	2046.3	2082.5	2097.4	2100.5
15°	3287.7	3050.0	2490.2	2050.9	1913.9	1927.5	1993.7	2061.4	2112.5	2135.2	2141.2
17.5°	3341.8	3033.4	2321.6	1901.8	1847.7	1894.3	1980.1	2065.9	2127.6	2156.2	2160.7
20°	3402.0	3009.3	2147.2	1790.5	1789.0	1847.7	1933.5	2029.8	2096.0	2127.6	2126.0
22.5°	3483.3	2986.7	1984.7	1709.3	1724.3	1778.5	1849.2	1936.5	1998.3	2026.8	2020.7
25°	3591.6	2965.8	1838.8	1637.0	1650.6	1686.8	1736.3	1802.6	1846.3	1861.2	1850.8
27.5°	3737.5	2949.1	1724.3	1570.8	1569.4	1585.9	1616.1	1652.1	1673.2	1668.7	1652.1
30°	3916.6	2932.6	1640.1	1512.1	1491.2	1489.6	1503.2	1524.1	1537.8	1510.7	1497.2
32.5°	4116.8	2904.0	1564.8	1461.1	1423.4	1409.9	1415.9	1444.5	1500.1	1473.1	1462.6
35°	4353.0	2870.9	1489.6	1405.4	1376.7	1351.2	1355.7	1417.4	1585.9	1566.3	1555.9
37.5°	4637.4	2840.8	1420.4	1345.2	1343.7	1312.1	1309.0	1382.7	1608.6	1566.3	1557.3
40°	4979.0	2834.7	1358.7	1279.0	1303.0	1291.0	1280.5	1325.7	1483.6	1397.9	1381.2
42.5°	5391.2	2861.8	1313.6	1215.7	1256.4	1285.0	1265.4	1275.9	1340.6	1263.9	1250.4
45°	5872.6	2935.6	1280.5	1160.2	1206.8	1280.5	1257.9	1248.9	1259.4	1217.2	1208.2
47.5°	6433.9	3066.5	1257.9	1113.5	1160.2	1268.4	1254.9	1236.9	1232.3	1208.2	1202.2
50°	7034.3	3242.6	1242.9	1071.3	1117.9	1247.4	1253.4	1227.8	1220.3	1209.7	1206.8
52.5°	7630.1	3433.6	1224.8	1035.2	1083.3	1221.7	1254.9	1218.8	1208.2	1202.2	1199.2
55°	8223.0	3632.3	1191.7	1003.6	1057.7	1191.7	1253.4	1206.8	1194.8	1194.8	1194.8
57.5°	8991.8	3934.7	1148.1	978.0	1024.7	1152.5	1233.9	1193.2	1176.6	1178.2	1179.7
60°	10102.3	4441.7	1099.9	949.5	981.0	1107.5	1203.7	1169.1	1149.5	1155.5	1157.0
62.5°	11957.6	5328.0	1033.7	908.8	936.0	1059.3	1164.6	1136.0	1117.9	1128.5	1130.0
65°	14431.2	6400.9	946.4	857.6	889.3	1005.0	1115.0	1096.9	1077.3	1102.9	1101.5
67.5°	15940.4	6715.3	854.6	803.5	844.1	948.0	1053.3	1045.7	1032.2	1077.3	1074.3
69°	15445.3	6146.5	802.0	768.8	812.6	908.8	1014.2	1011.0	1000.6	1044.2	1041.2
70°	14676.5	5615.4	768.8	746.4	796.0	884.8	988.6	988.6	978.0	1015.7	1008.1
72.5°	11789.0	4164.9	692.1	689.1	738.8	818.6	919.3	926.8	920.8	934.3	926.8
75°	6921.5	2509.8	616.9	625.9	669.5	747.8	842.6	848.6	842.6	841.1	842.6
77.5°	2399.9	1125.5	544.6	558.2	595.9	675.6	758.4	770.4	761.3	750.8	753.9
80°	938.9	654.6	466.4	485.9	517.6	594.4	674.1	681.6	668.1	666.6	654.6
82.5°	564.3	398.7	362.6	394.2	433.3	516.1	582.4	579.3	568.8	630.4	552.2
85°	245.3	221.1	264.9	296.4	316.0	386.7	492.0	478.4	452.9	398.7	389.7
87.5°	99.3	114.4	146.0	176.0	189.6	249.7	337.1	325.0	329.5	270.9	269.4
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)