

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: P196744

Luminaire Tested: **NAV-AF-04-D-UNV-T2-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196744
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-04-D-UNV-T2-7030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 23096.3 lumens
Efficiency: N/A
Efficacy: 102.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B3 - U0 - G3

Input Watts (W): 225
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

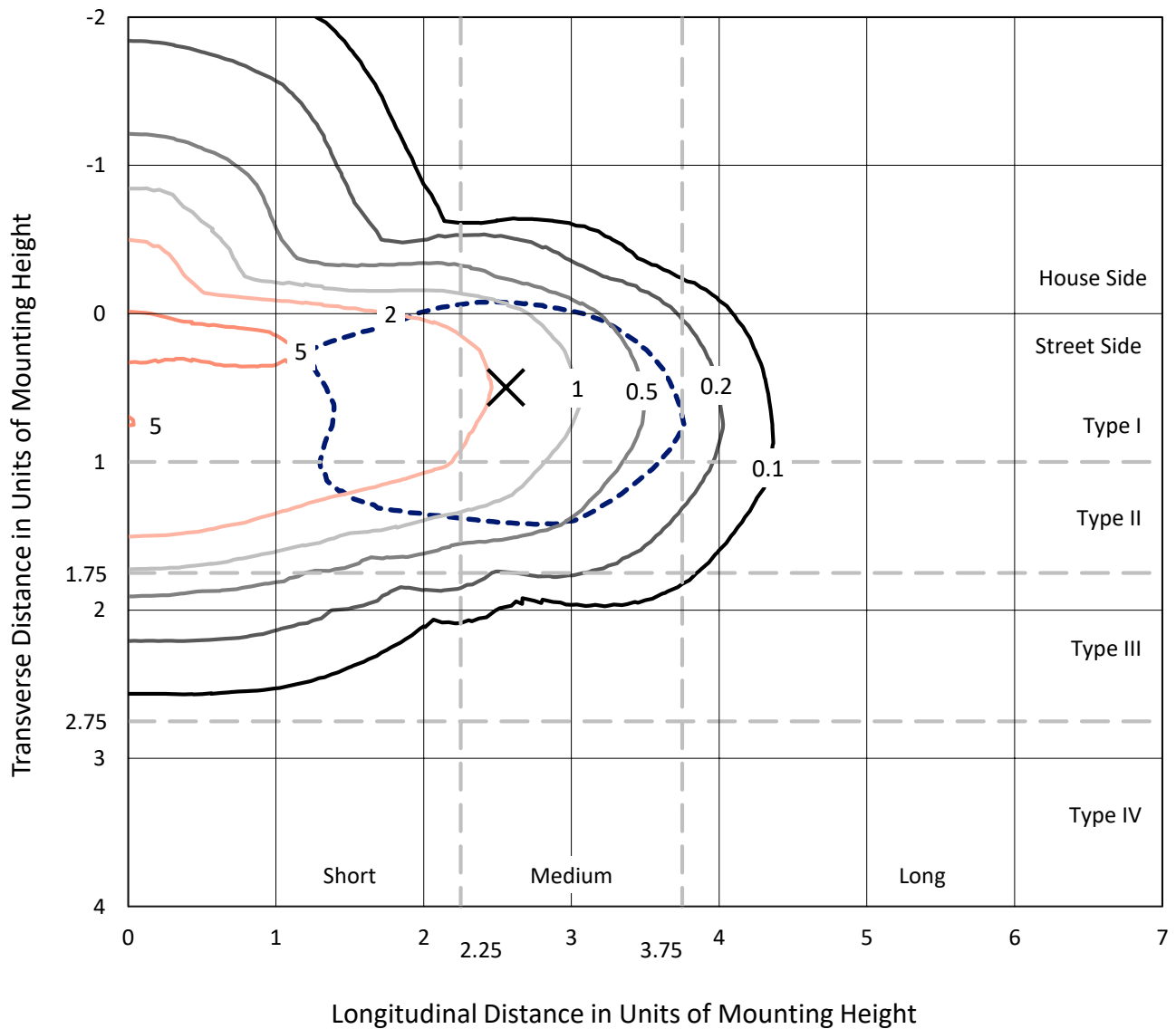


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Iso-Footcandle Lines of Horizontal Illumination

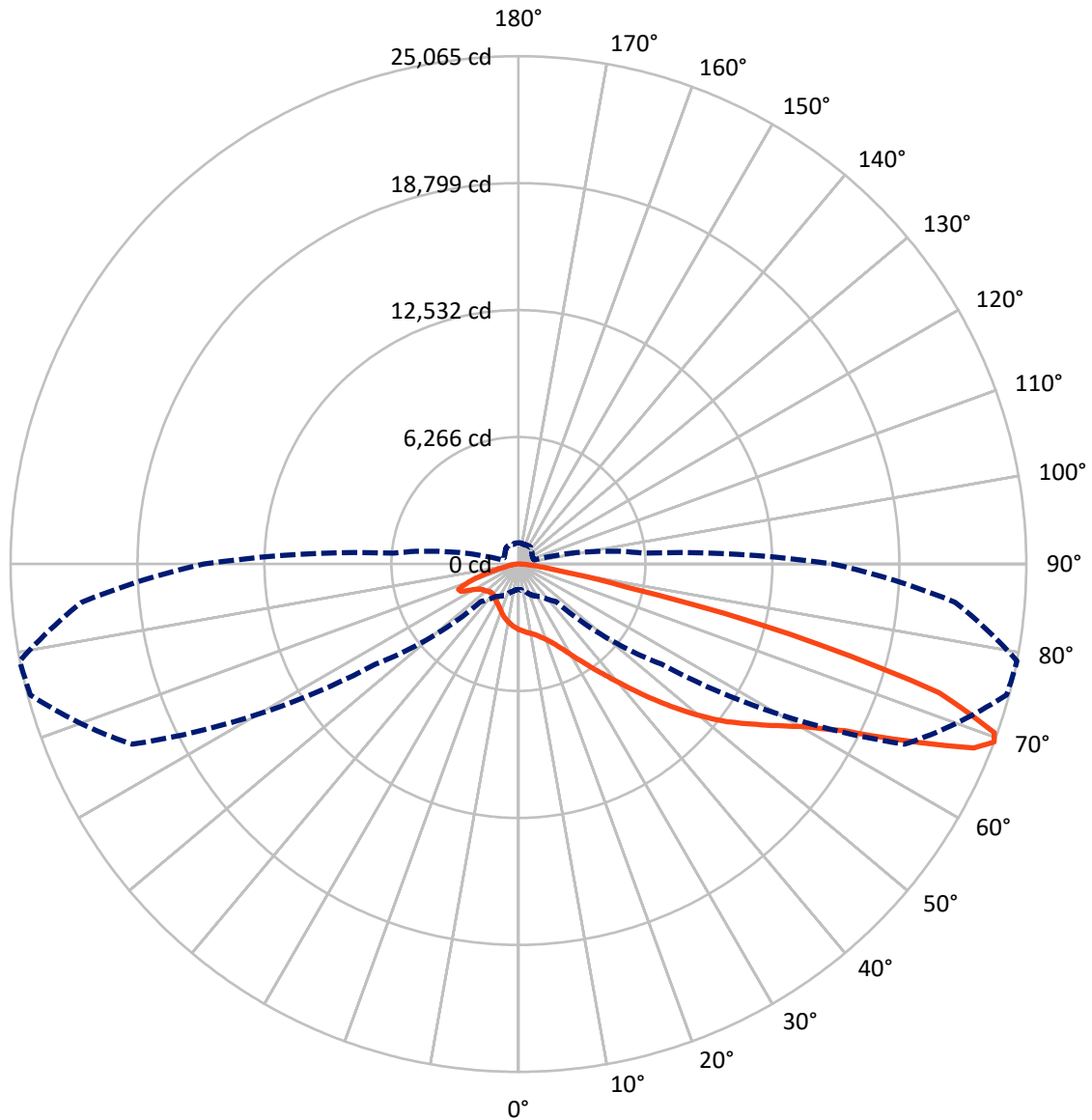
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.3 fc
 Type 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	4344.8	0.0	4344.8
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	18751.5	0.0	18751.5
	% Fixture	81.2	0.0	81.2
Total	Lumens	23096.3	0.0	23096.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	300.5	1.3
10°-20°	861.4	3.7
20°-30°	1423.5	6.2
30°-40°	2305.0	10.0
40°-50°	3682.2	15.9
50°-60°	5273.2	22.8
60°-70°	5875.2	25.4
70°-80°	2939.3	12.7
80°-90°	436.2	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°	23096.3	100.0
0°-180°	23096.3	100.0



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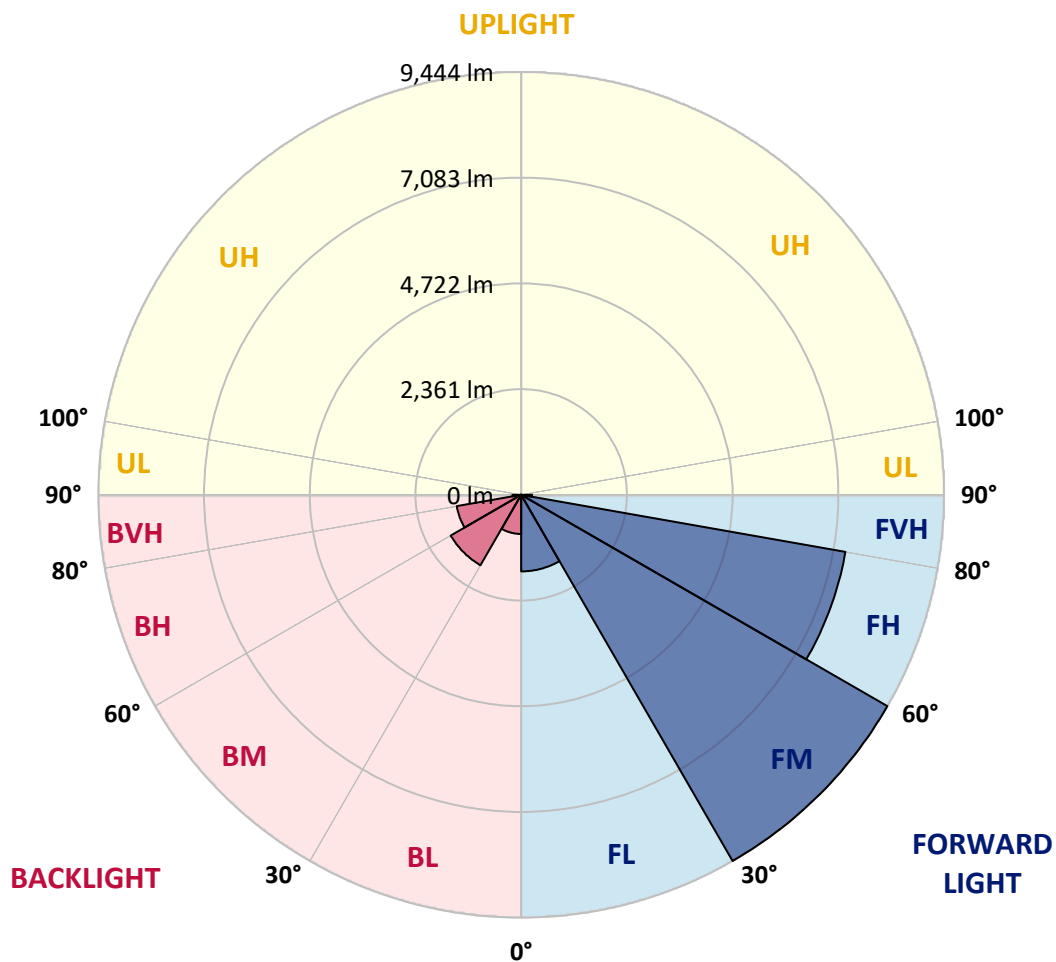
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1710.1	7.4			
FM	(30°-60°)	9444.1	40.9			
FH	(60°-80°)	7353.5	31.8			G3/7500
FVH	(80°-90°)	243.7	1.1			G3/500
BL	(0°-30°)	875.3	3.8	B2/1000		
BM	(30°-60°)	1816.2	7.9	B2/2500		
BH	(60°-80°)	1460.9	6.3	B3/2500		G3/2500
BVH	(80°-90°)	192.5	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°	3241.1	3241.1	3241.1	3241.1	3241.1	3241.1	3241.1	3241.1	3241.1	3241.1	3241.1
2.5°	3558.5	3550.9	3549.4	3526.8	3514.7	3488.9	3428.5	3366.6	3309.1	3278.9	3247.1
5°	3856.1	3841.0	3833.5	3795.6	3762.5	3705.0	3609.8	3511.6	3408.9	3356.0	3292.5
7.5°	4035.9	4037.4	4037.4	4007.2	3974.0	3904.5	3783.6	3649.2	3496.6	3427.0	3327.3
10°	4051.0	4052.5	4075.3	4082.8	4090.3	4054.1	3942.3	3773.0	3576.6	3485.9	3356.0
12.5°	3901.4	3912.0	3949.8	4004.3	4081.3	4120.6	4072.2	3906.0	3679.3	3569.1	3410.4
15°	3700.5	3711.1	3759.4	3842.5	3966.4	4097.9	4165.8	4058.7	3813.8	3683.9	3490.5
17.5°	3602.3	3614.4	3647.6	3714.0	3835.0	4011.8	4215.8	4221.8	3972.4	3822.9	3585.7
20°	3555.4	3564.5	3606.7	3661.2	3753.4	3922.6	4220.2	4394.1	4161.3	3987.6	3702.0
22.5°	3662.7	3665.7	3686.9	3717.1	3779.1	3909.0	4217.3	4572.4	4397.0	4194.6	3851.6
25°	3977.0	3957.4	3942.3	3904.5	3919.5	4011.8	4265.6	4762.7	4699.2	4466.6	4051.0
27.5°	4348.7	4345.7	4306.5	4218.8	4162.9	4221.8	4403.1	4975.7	5069.5	4812.7	4312.5
30°	4762.7	4764.2	4723.5	4616.2	4502.8	4508.9	4622.2	5222.0	5512.2	5229.7	4634.3
32.5°	5196.4	5223.5	5148.1	5040.7	4903.2	4859.5	4936.6	5519.8	6024.4	5722.2	5007.6
35°	5714.7	5719.1	5636.1	5479.0	5341.4	5272.0	5343.0	5891.5	6615.2	6301.0	5462.3
37.5°	6252.6	6255.6	6169.6	5968.5	5794.8	5749.4	5828.0	6343.3	7240.8	6959.9	5997.2
40°	6692.3	6724.1	6656.1	6467.2	6291.9	6264.7	6378.0	6884.2	8040.2	7739.5	6633.3
42.5°	7191.0	7227.2	7145.7	6949.2	6810.1	6801.1	6978.0	7500.7	8834.9	8641.6	7354.1
45°	7753.0	7804.4	7691.1	7470.5	7352.6	7552.1	7562.7	8183.7	9750.7	9650.9	8165.6
47.5°	8366.5	8408.8	8316.7	8079.4	7951.1	8239.6	8135.3	8922.5	10740.3	10732.7	9043.5
50°	8839.5	8886.3	8895.4	8791.1	8656.6	8692.8	8763.9	9699.3	11727.1	11844.9	9951.6
52.5°	8753.3	8798.6	9002.6	9276.2	9492.2	9398.6	9484.7	10524.3	12680.5	12929.8	10814.4
55°	8058.3	8082.5	8464.8	9114.5	10034.7	10482.0	10488.1	11421.9	13587.2	13936.1	11633.4
57.5°	6805.6	6808.7	7305.8	8263.9	9718.9	11184.6	12071.5	12549.1	14533.0	15048.3	12648.7
60°	4815.6	4827.7	5406.4	6659.1	8587.1	11099.9	13774.6	14566.2	15628.6	16297.8	13957.4
62.5°	2858.9	2886.1	3322.8	4327.5	6378.0	10012.1	14780.8	18154.9	17242.3	18130.8	16051.6
65°	1860.0	1882.7	2144.1	2648.8	3768.5	7284.7	14449.9	21630.3	20296.0	21013.9	19061.6
67.5°	1432.5	1450.6	1656.1	1961.3	2311.8	3937.7	11553.3	22358.6	24013.2	24236.8	21601.5
69°	1258.6	1273.8	1424.8	1718.0	1946.2	2606.5	8609.8	21036.4	24942.5	25064.8	21633.4
70°	1166.6	1178.6	1320.6	1574.5	1787.6	2080.7	6589.5	19501.2	24602.5	24915.3	21009.3
72.5°	961.1	971.6	1072.8	1267.7	1461.2	1482.3	2919.3	14239.9	20716.1	21716.4	17778.6
75°	802.4	808.4	874.8	1016.8	1183.2	1180.1	1491.4	8065.8	12641.2	13833.5	10977.6
77.5°	669.4	673.9	717.8	805.4	933.8	929.2	1050.2	3481.4	5581.7	5385.3	3779.1
80°	590.8	593.9	616.6	639.1	720.8	716.2	778.2	1598.7	2271.1	2098.8	1429.4
82.5°	448.7	454.8	569.7	580.2	559.1	539.4	542.5	930.8	1163.5	1059.3	767.5
85°	253.8	255.3	365.7	427.6	486.5	365.7	352.1	480.5	574.1	503.1	335.4
87.5°	113.3	117.9	175.3	202.4	262.9	214.5	200.9	204.0	247.8	205.5	133.0
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°	3241.1	3241.1	3241.1	3241.1	3241.1	3241.1	3241.1	3241.1	3241.1	3241.1	3241.1
2.5°	3216.9	3191.3	3130.9	3068.9	3007.0	2967.7	2926.8	2889.1	2873.9	2872.4	2843.7
5°	3230.6	3170.1	3032.6	2881.5	2737.9	2626.1	2532.5	2472.0	2413.1	2402.5	2376.8
7.5°	3235.0	3136.9	2913.3	2671.5	2452.5	2298.3	2204.7	2163.8	2135.0	2127.5	2118.4
10°	3233.6	3094.5	2780.3	2449.4	2200.1	2083.7	2048.9	2058.0	2070.1	2076.2	2076.2
12.5°	3257.8	3074.9	2647.4	2240.8	2036.8	1981.0	2008.1	2054.9	2091.2	2106.4	2109.4
15°	3301.6	3062.9	2500.7	2059.5	1922.0	1935.6	2002.0	2070.1	2121.5	2144.1	2150.2
17.5°	3356.0	3046.2	2331.5	1910.0	1855.5	1902.4	1988.5	2074.7	2136.6	2165.3	2169.8
20°	3416.4	3022.0	2156.2	1798.1	1796.7	1855.5	1941.6	2038.3	2104.9	2136.6	2135.0
22.5°	3498.1	2999.3	1993.0	1716.6	1731.6	1786.1	1857.1	1944.7	2006.6	2035.4	2029.3
25°	3606.7	2978.2	1846.5	1644.1	1657.6	1693.8	1743.7	1810.2	1854.0	1869.1	1858.6
27.5°	3753.4	2961.6	1731.6	1577.4	1575.9	1592.6	1622.8	1659.1	1680.3	1675.7	1659.1
30°	3933.3	2945.0	1647.0	1518.6	1497.4	1495.9	1509.5	1530.6	1544.3	1517.1	1503.5
32.5°	4134.2	2916.2	1571.4	1467.3	1429.4	1415.8	1421.9	1450.6	1506.4	1479.3	1468.7
35°	4371.4	2883.1	1495.9	1411.3	1382.5	1356.9	1361.5	1423.4	1592.6	1573.0	1562.4
37.5°	4656.9	2852.8	1426.4	1350.9	1349.4	1317.5	1314.6	1388.5	1615.3	1573.0	1563.9
40°	4999.9	2846.8	1364.4	1284.4	1308.6	1296.5	1285.9	1331.3	1489.9	1403.8	1387.1
42.5°	5414.1	2873.9	1319.1	1220.9	1261.7	1290.5	1270.8	1281.4	1346.3	1269.3	1255.6
45°	5897.5	2948.1	1285.9	1165.0	1211.8	1285.9	1263.2	1254.2	1264.6	1222.4	1213.4
47.5°	6461.1	3079.5	1263.2	1118.2	1165.0	1273.8	1260.2	1242.1	1237.6	1213.4	1207.4
50°	7064.0	3256.3	1248.1	1075.8	1122.6	1252.6	1258.6	1233.0	1225.5	1214.9	1211.8
52.5°	7662.4	3448.1	1229.9	1039.6	1087.9	1227.0	1260.2	1223.9	1213.4	1207.4	1204.2
55°	8257.7	3647.6	1196.7	1007.8	1062.2	1196.7	1258.6	1211.8	1199.7	1199.7	1199.7
57.5°	9029.8	3951.4	1152.9	982.1	1029.0	1157.5	1239.0	1198.2	1181.6	1183.2	1184.6
60°	10145.0	4460.5	1104.6	953.5	985.2	1112.1	1208.9	1174.1	1154.5	1160.5	1162.0
62.5°	12008.1	5350.5	1038.1	912.7	939.8	1063.7	1169.5	1140.7	1122.6	1133.2	1134.7
65°	14492.2	6427.9	950.4	861.3	892.9	1009.3	1119.7	1101.6	1081.8	1107.6	1106.0
67.5°	16007.8	6743.7	858.2	806.9	847.7	951.9	1057.7	1050.2	1036.6	1081.8	1078.8
69°	15510.7	6172.5	805.4	772.1	815.9	912.7	1018.4	1015.4	1004.8	1048.7	1045.6
70°	14738.5	5639.1	772.1	749.5	799.3	888.5	992.7	992.7	982.1	1019.9	1012.4
72.5°	11838.9	4182.6	695.1	692.0	741.9	821.9	923.2	930.8	924.8	938.3	930.8
75°	6950.7	2520.4	619.5	628.6	672.4	750.9	846.2	852.2	846.2	844.7	846.2
77.5°	2410.0	1130.3	547.0	560.6	598.4	678.5	761.5	773.7	764.6	754.0	757.0
80°	942.9	657.3	468.4	488.1	519.7	596.9	677.0	684.5	670.9	669.4	657.3
82.5°	566.6	400.4	364.2	395.8	435.2	518.3	584.7	581.7	571.2	633.1	554.5
85°	246.3	222.2	265.9	297.6	317.3	388.3	494.1	480.5	454.8	400.4	391.3
87.5°	99.8	114.8	146.5	176.8	190.4	250.9	338.4	326.3	330.9	271.9	270.5
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)