

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: P195774

Luminaire Tested: **NAV-AF-06-D-UNV-T2-7050-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195774
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-06-D-UNV-T2-7050-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 5000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 23231 lumens
Efficiency: N/A
Efficacy: 120.4 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

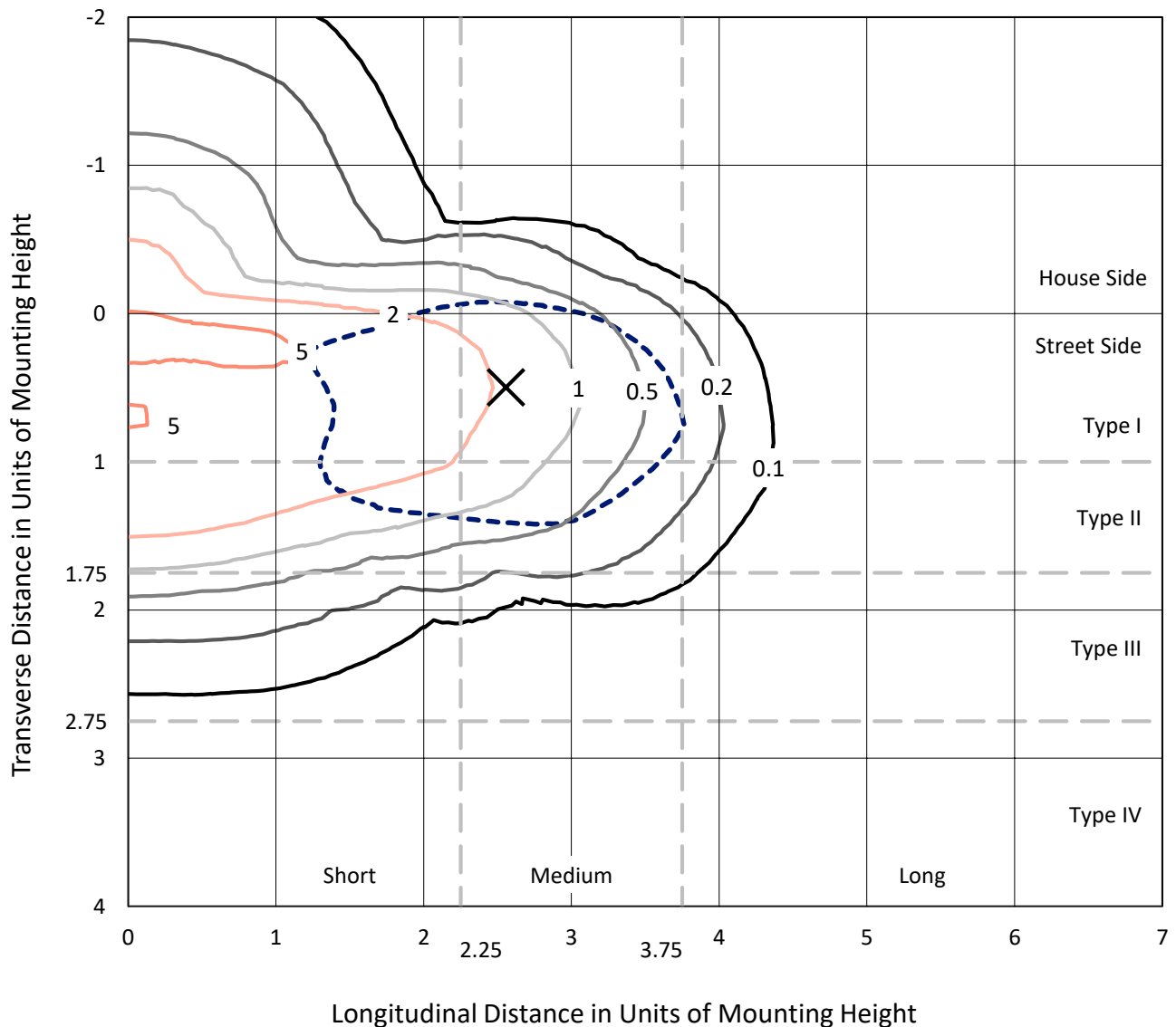
Input Watts (W): 193
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

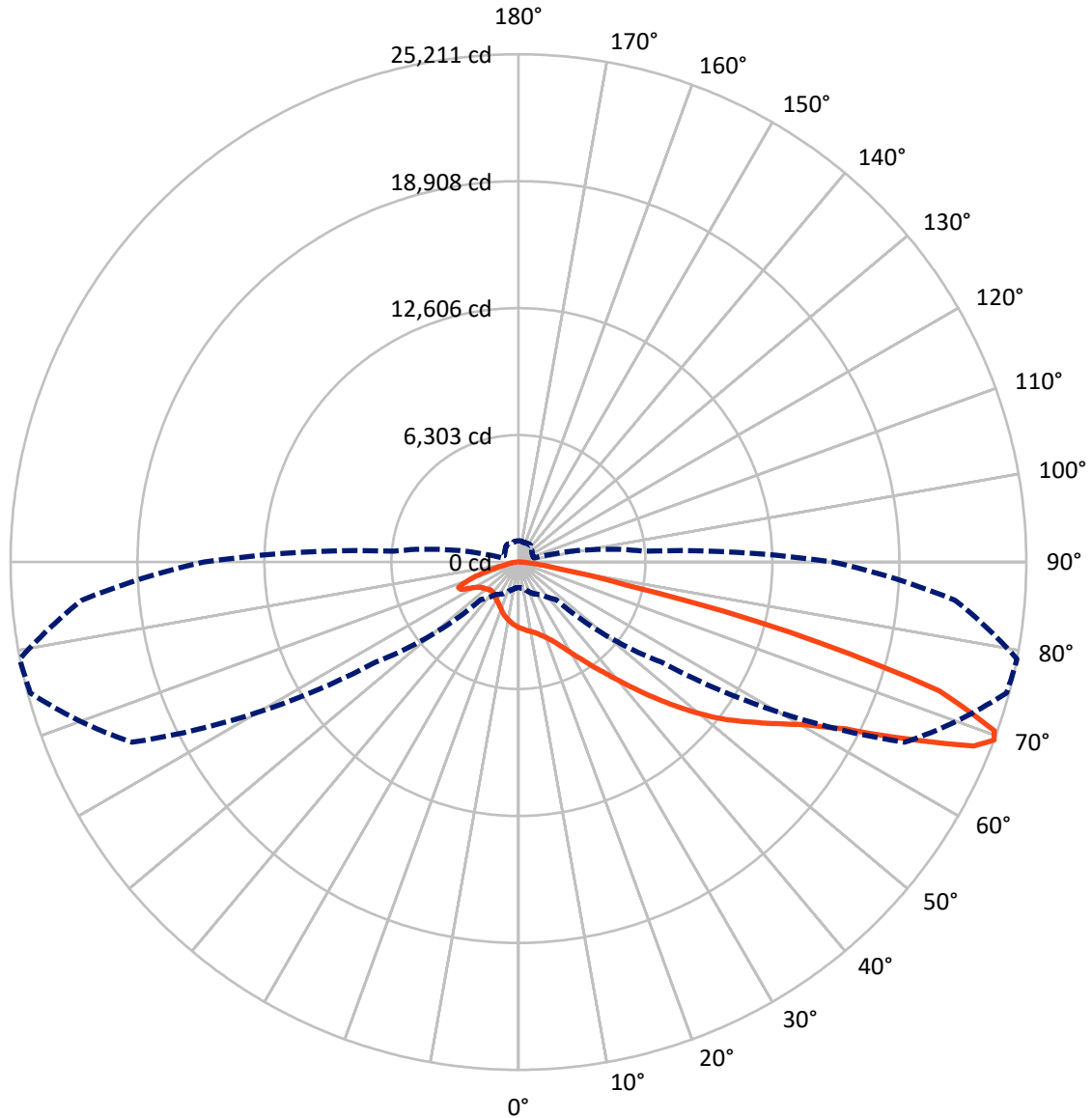
× Max cd
 - - - 1/2 Max cd



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	4370.2	0.0	4370.2
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	18860.8	0.0	18860.8
	% Fixture	81.2	0.0	81.2
Total	Lumens	23231.0	0.0	23231.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	302.2	1.3
10°-20°	866.5	3.7
20°-30°	1431.8	6.2
30°-40°	2318.4	10.0
40°-50°	3703.6	15.9
50°-60°	5304.0	22.8
60°-70°	5909.4	25.4
70°-80°	2956.4	12.7
80°-90°	438.7	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°	23231.0	100.0
0°-180°	23231.0	100.0



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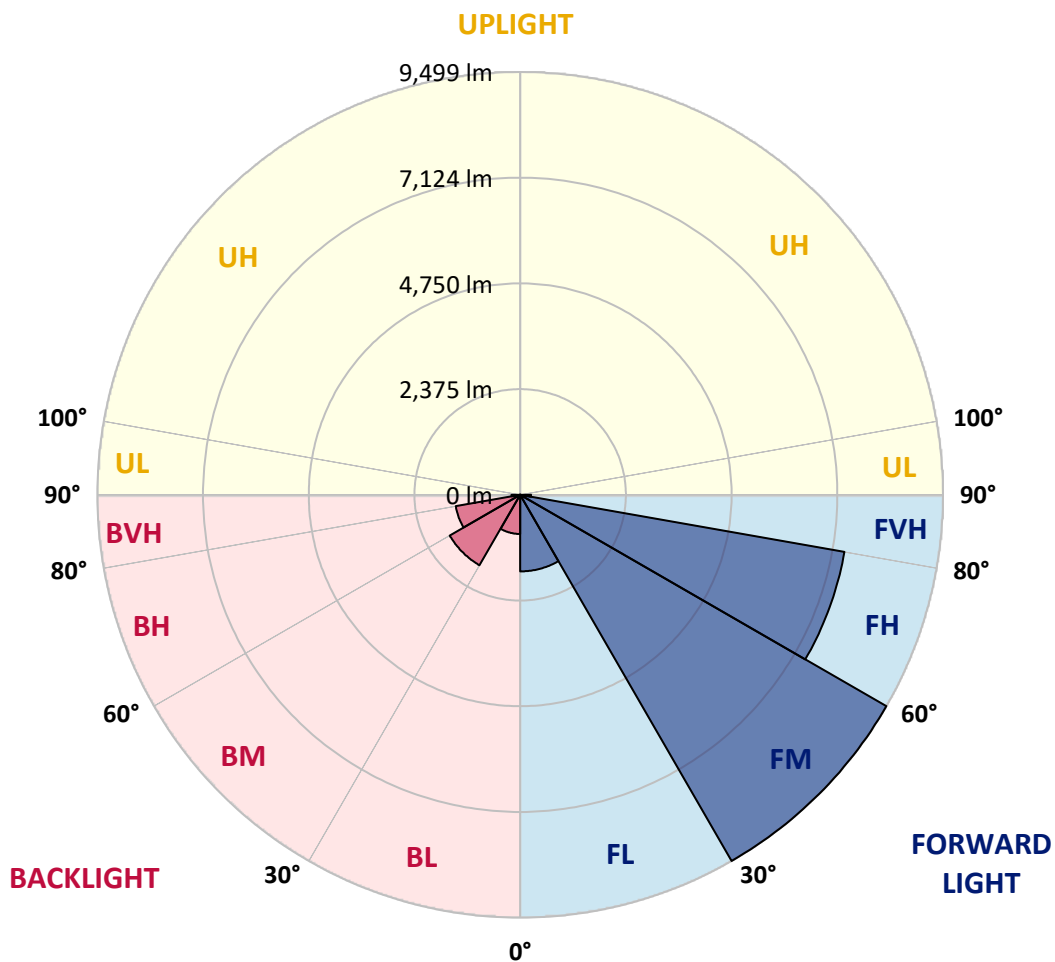
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1720.1	7.4			
FM	(30°-60°)	9499.2	40.9			
FH	(60°-80°)	7396.4	31.8			G3/7500
FVH	(80°-90°)	245.2	1.1			G3/500
BL	(0°-30°)	880.4	3.8	B2/1000		
BM	(30°-60°)	1826.8	7.9	B2/2500		
BH	(60°-80°)	1469.4	6.3	B3/2500		G3/2500
BVH	(80°-90°)	193.6	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°	3260.0	3260.0	3260.0	3260.0	3260.0	3260.0	3260.0	3260.0	3260.0	3260.0	3260.0
2.5°	3579.2	3571.6	3570.1	3547.3	3535.1	3509.3	3448.5	3386.2	3328.4	3298.0	3266.1
5°	3878.6	3863.4	3855.8	3817.8	3784.4	3726.6	3630.9	3532.1	3428.7	3375.6	3311.7
7.5°	4059.5	4061.0	4061.0	4030.6	3997.2	3927.3	3805.7	3670.4	3516.9	3447.0	3346.7
10°	4074.7	4076.2	4099.0	4106.6	4114.2	4077.7	3965.2	3795.0	3597.4	3506.3	3375.6
12.5°	3924.2	3934.8	3972.8	4027.6	4105.1	4144.6	4096.0	3928.8	3700.8	3589.8	3430.3
15°	3722.1	3732.7	3781.3	3864.9	3989.6	4121.8	4190.2	4082.3	3836.1	3705.4	3510.8
17.5°	3623.3	3635.4	3668.9	3735.8	3857.3	4035.2	4240.3	4246.4	3995.6	3845.2	3606.6
20°	3576.2	3585.3	3627.8	3682.6	3775.3	3945.5	4244.9	4419.7	4185.6	4010.8	3723.6
22.5°	3684.1	3687.1	3708.4	3738.8	3801.1	3931.8	4241.9	4599.0	4422.7	4219.1	3874.1
25°	4000.2	3980.4	3965.2	3927.3	3942.4	4035.2	4290.5	4790.5	4726.7	4492.6	4074.7
27.5°	4374.1	4371.0	4331.5	4243.4	4187.1	4246.4	4428.8	5004.8	5099.0	4840.7	4337.6
30°	4790.5	4792.0	4751.0	4643.1	4529.1	4535.2	4649.2	5252.5	5544.4	5260.1	4661.3
32.5°	5226.7	5254.1	5178.1	5070.2	4931.9	4887.8	4965.3	5552.0	6059.6	5755.6	5036.7
35°	5748.0	5752.6	5669.0	5510.9	5372.6	5302.7	5374.1	5925.8	6653.8	6337.7	5494.2
37.5°	6289.1	6292.1	6205.5	6003.3	5828.6	5783.0	5862.0	6380.3	7283.0	7000.4	6032.2
40°	6731.3	6763.3	6694.9	6504.9	6328.6	6301.2	6415.2	6924.4	8087.0	7784.6	6672.1
42.5°	7232.9	7269.4	7187.3	6989.7	6849.9	6840.8	7018.6	7544.5	8886.5	8691.9	7397.0
45°	7798.3	7849.9	7736.0	7514.1	7395.5	7596.1	7606.8	8231.4	9807.5	9707.2	8213.2
47.5°	8415.3	8457.9	8365.2	8126.6	7997.4	8287.7	8182.8	8974.6	10803.0	10795.4	9096.2
50°	8891.0	8938.1	8947.3	8842.4	8707.1	8743.6	8815.0	9755.8	11795.4	11914.0	10009.6
52.5°	8804.4	8850.0	9055.2	9330.3	9547.6	9453.4	9540.0	10585.6	12754.4	13005.2	10877.5
55°	8105.3	8129.6	8514.1	9167.6	10093.2	10543.1	10549.2	11488.4	13666.3	14017.4	11701.2
57.5°	6845.3	6848.4	7348.4	8312.0	9775.6	11249.8	12142.0	12622.2	14617.8	15136.0	12722.5
60°	4843.7	4855.9	5438.0	6697.9	8637.2	11164.7	13854.8	14651.2	15719.6	16392.9	14038.7
62.5°	2875.5	2902.9	3342.1	4352.8	6415.2	10070.4	14867.0	18260.8	17342.8	18236.5	16145.2
65°	1870.9	1893.7	2156.6	2664.3	3790.5	7327.1	14534.2	21756.4	20414.4	21136.3	19172.7
67.5°	1440.8	1459.0	1665.7	1972.7	2325.3	3960.7	11620.6	22489.0	24153.2	24378.1	21727.5
69°	1266.0	1281.2	1433.2	1728.1	1957.5	2621.7	8660.0	21159.1	25087.9	25211.0	21759.5
70°	1173.3	1185.5	1328.3	1583.7	1798.0	2092.8	6628.0	19615.0	24745.9	25060.5	21131.8
72.5°	966.6	977.3	1079.1	1275.1	1469.7	1491.0	2936.3	14322.9	20836.9	21843.1	17882.4
75°	807.0	813.1	880.0	1022.8	1190.0	1187.0	1500.1	8112.9	12714.9	13914.1	11041.6
77.5°	673.3	677.8	721.9	810.1	939.3	934.7	1056.3	3501.7	5614.3	5416.7	3801.1
80°	594.3	597.3	620.1	642.9	725.0	720.4	782.7	1608.0	2284.3	2111.0	1437.8
82.5°	451.4	457.5	573.0	583.6	562.3	542.6	545.6	936.2	1170.3	1065.4	772.1
85°	255.3	256.9	367.8	430.1	489.4	367.8	354.1	483.3	577.5	506.1	337.4
87.5°	114.0	118.5	176.3	203.7	264.5	215.8	202.1	205.2	249.3	206.7	133.7
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°	3260.0	3260.0	3260.0	3260.0	3260.0	3260.0	3260.0	3260.0	3260.0	3260.0	3260.0
2.5°	3235.7	3209.9	3149.1	3086.8	3024.5	2985.0	2943.9	2905.9	2890.7	2889.2	2860.3
5°	3249.4	3188.6	3050.3	2898.3	2753.9	2641.5	2547.2	2486.4	2427.2	2416.5	2390.7
7.5°	3254.0	3155.2	2930.2	2687.1	2466.7	2311.7	2217.4	2176.4	2147.5	2139.9	2130.8
10°	3252.4	3112.6	2796.5	2463.7	2212.9	2095.9	2060.9	2070.0	2082.2	2088.3	2088.3
12.5°	3276.8	3092.9	2662.7	2253.9	2048.7	1992.5	2019.9	2067.0	2103.4	2118.6	2121.7
15°	3320.8	3080.7	2515.3	2071.5	1933.2	1946.9	2013.8	2082.2	2133.8	2156.6	2162.7
17.5°	3375.6	3064.0	2345.1	1921.1	1866.4	1913.5	2000.1	2086.7	2149.0	2177.9	2182.5
20°	3436.3	3039.7	2168.8	1808.6	1807.1	1866.4	1953.0	2050.3	2117.1	2149.0	2147.5
22.5°	3518.4	3016.9	2004.7	1726.5	1741.7	1796.4	1867.9	1956.0	2018.3	2047.2	2041.1
25°	3627.8	2995.6	1857.2	1653.6	1667.3	1703.7	1753.9	1820.8	1864.8	1880.0	1869.4
27.5°	3775.3	2978.9	1741.7	1586.7	1585.2	1601.9	1632.3	1668.8	1690.1	1685.5	1668.8
30°	3956.1	2962.2	1656.6	1527.4	1506.2	1504.6	1518.3	1539.6	1553.3	1525.9	1512.2
32.5°	4158.3	2933.3	1580.6	1475.8	1437.8	1424.1	1430.2	1459.0	1515.3	1487.9	1477.3
35°	4396.9	2899.8	1504.6	1419.5	1390.6	1364.8	1369.4	1431.7	1601.9	1582.1	1571.5
37.5°	4684.1	2869.4	1434.7	1358.7	1357.2	1325.3	1322.3	1396.7	1624.7	1582.1	1573.0
40°	5029.1	2863.4	1372.4	1291.9	1316.2	1304.0	1293.4	1339.0	1498.6	1411.9	1395.2
42.5°	5445.6	2890.7	1326.8	1228.0	1269.1	1297.9	1278.2	1288.8	1354.2	1276.7	1263.0
45°	5931.9	2965.2	1293.4	1171.8	1218.9	1293.4	1270.6	1261.5	1272.1	1229.5	1220.4
47.5°	6498.8	3097.4	1270.6	1124.7	1171.8	1281.2	1267.5	1249.3	1244.7	1220.4	1214.3
50°	7105.2	3275.2	1255.4	1082.1	1129.2	1259.9	1266.0	1240.2	1232.6	1221.9	1218.9
52.5°	7707.1	3468.3	1237.1	1045.6	1094.3	1234.1	1267.5	1231.1	1220.4	1214.3	1211.3
55°	8305.9	3668.9	1203.7	1013.7	1068.4	1203.7	1266.0	1218.9	1206.7	1206.7	1206.7
57.5°	9082.5	3974.4	1159.6	987.9	1035.0	1164.2	1246.3	1205.2	1188.5	1190.0	1191.5
60°	10204.2	4486.5	1111.0	959.0	990.9	1118.6	1215.9	1180.9	1161.2	1167.2	1168.8
62.5°	12078.1	5381.7	1044.1	918.0	945.3	1070.0	1176.4	1147.5	1129.2	1139.9	1141.4
65°	14576.7	6465.4	956.0	866.3	898.2	1015.2	1126.2	1108.0	1088.2	1114.0	1112.5
67.5°	16101.1	6783.0	863.3	811.6	852.6	957.5	1063.9	1056.3	1042.6	1088.2	1085.2
69°	15601.1	6208.5	810.1	776.6	820.7	918.0	1024.4	1021.3	1010.7	1054.8	1051.7
70°	14824.5	5672.0	776.6	753.8	804.0	893.7	998.5	998.5	987.9	1025.9	1018.3
72.5°	11907.9	4206.9	699.1	696.1	746.2	826.8	928.6	936.2	930.1	943.8	936.2
75°	6991.2	2535.1	623.1	632.3	676.3	755.4	851.1	857.2	851.1	849.6	851.1
77.5°	2424.1	1136.8	550.2	563.9	601.9	682.4	766.0	778.2	769.0	758.4	761.4
80°	948.4	661.1	471.1	490.9	522.8	600.3	680.9	688.5	674.8	673.3	661.1
82.5°	569.9	402.8	366.3	398.2	437.7	521.3	588.2	585.1	574.5	636.8	557.8
85°	247.7	223.4	267.5	299.4	319.2	390.6	497.0	483.3	457.5	402.8	393.6
87.5°	100.3	115.5	147.4	177.8	191.5	252.3	340.4	328.3	332.8	273.6	272.1
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)