

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: P197331

Luminaire Tested: **NAV-AF-03-D-UNV-T4W-8030-600**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P197331  
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-03-D-UNV-T4W-8030-600  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 80 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9624 lumens  
Efficiency: N/A  
Efficacy: 100.3 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B2 - U0 - G2

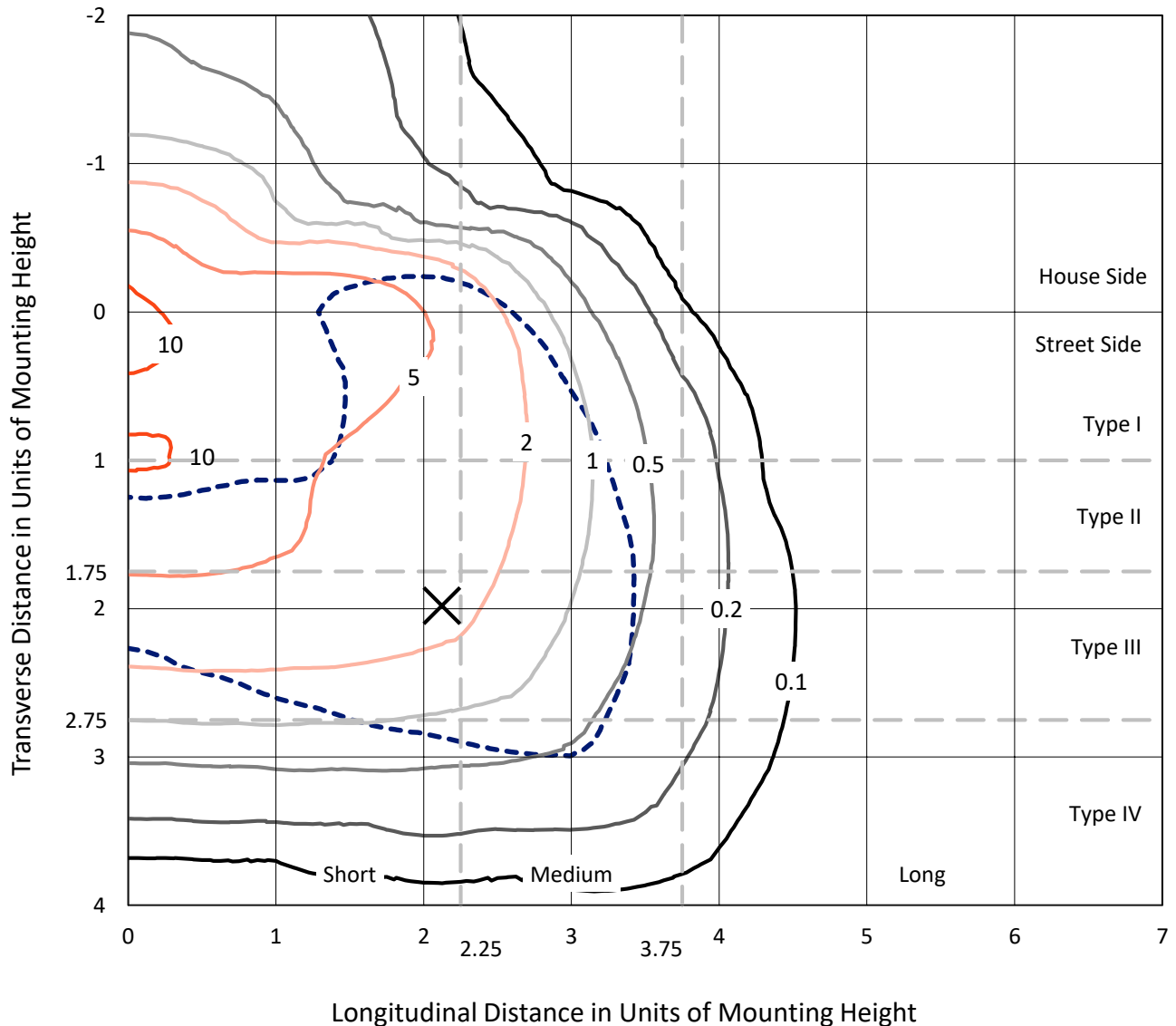
Input Watts (W): 96  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

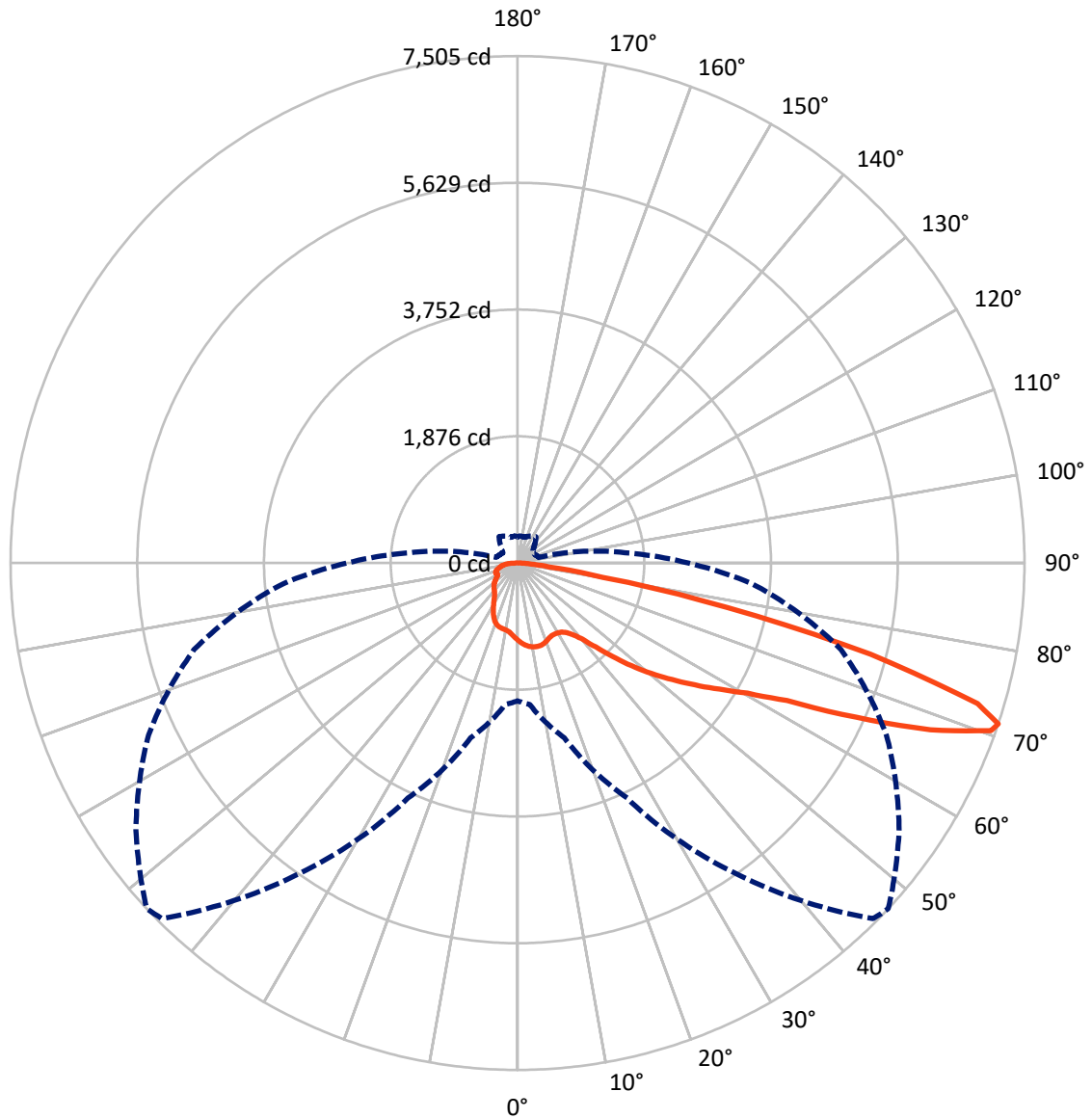
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 13.1 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
<b>House Side</b>	Lumens	2062.6	0.0	2062.6
	% Fixture	21.4	0.0	21.4
<b>Street Side</b>	Lumens	7561.4	0.0	7561.4
	% Fixture	78.6	0.0	78.6
<b>Total</b>	Lumens	9624.0	0.0	9624.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	109.3	1.1
10°-20°	319.7	3.3
20°-30°	475.0	4.9
30°-40°	682.1	7.1
40°-50°	1209.4	12.6
50°-60°	2069.4	21.5
60°-70°	2937.8	30.5
70°-80°	1609.0	16.7
80°-90°	212.4	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°	9624.0	100.0
0°-180°	9624.0	100.0



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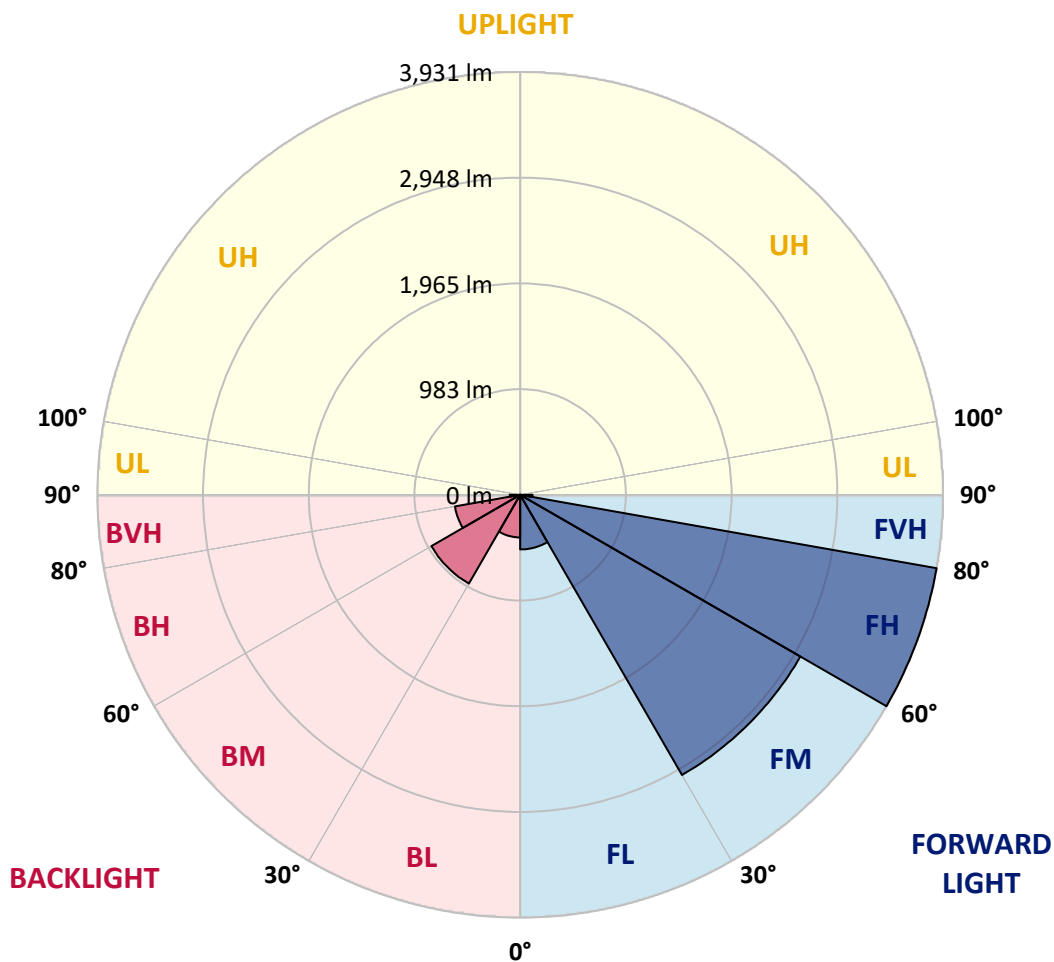
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	507.9	5.3			
FM	(30°-60°)	3007.8	31.3			
FH	(60°-80°)	3930.5	40.8			G2/5000
FVH	(80°-90°)	115.2	1.2			G2/225
BL	(0°-30°)	396.1	4.1	B1/500		
BM	(30°-60°)	953.0	9.9	B1/1000		
BH	(60°-80°)	616.3	6.4	B2/1000		G2/1000
BVH	(80°-90°)	97.2	1.0			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	1144.5	1144.5	1144.5	1144.5	1144.5	1144.5	1144.5	1144.5	1144.5	1144.5	1144.5
2.5°	1214.3	1211.8	1213.1	1208.7	1198.1	1186.9	1186.9	1175.0	1162.5	1150.1	1136.3
5°	1289.8	1286.0	1282.9	1269.2	1248.6	1225.5	1221.8	1198.1	1172.5	1146.9	1122.0
7.5°	1352.8	1349.0	1339.7	1314.7	1284.8	1250.5	1246.1	1214.9	1181.3	1145.7	1110.8
10°	1397.7	1395.2	1377.1	1345.3	1310.4	1269.8	1262.3	1230.5	1190.6	1146.3	1102.0
12.5°	1422.6	1418.9	1397.0	1359.6	1318.5	1277.3	1269.8	1239.3	1193.7	1145.1	1093.3
15°	1412.6	1410.8	1390.2	1352.1	1311.0	1275.4	1269.2	1238.0	1191.9	1140.7	1085.2
17.5°	1370.2	1374.6	1358.4	1321.0	1287.3	1262.3	1255.5	1226.2	1182.5	1130.1	1072.7
20°	1311.6	1316.6	1308.5	1270.4	1251.1	1234.9	1231.1	1207.4	1166.9	1114.5	1057.8
22.5°	1249.2	1253.6	1254.2	1218.7	1212.4	1206.2	1203.1	1186.2	1153.2	1105.2	1047.8
25°	1206.2	1211.2	1212.4	1181.3	1185.0	1186.9	1186.2	1174.4	1150.7	1105.2	1049.0
27.5°	1195.0	1197.5	1196.2	1167.5	1174.4	1185.0	1185.6	1183.1	1160.7	1117.6	1066.5
30°	1233.6	1234.9	1219.3	1176.3	1183.1	1196.8	1197.5	1196.2	1181.9	1150.1	1105.8
32.5°	1400.8	1399.5	1345.9	1234.9	1211.2	1216.2	1218.0	1229.3	1230.5	1203.7	1162.5
35°	1655.2	1654.6	1592.3	1402.7	1291.0	1264.8	1267.3	1284.8	1300.4	1282.3	1258.6
37.5°	1935.3	1937.2	1899.1	1642.2	1463.2	1354.0	1351.5	1364.6	1392.7	1398.9	1402.0
40°	2245.9	2255.2	2253.4	1917.2	1704.5	1506.2	1481.2	1466.3	1520.5	1554.8	1599.1
42.5°	2600.8	2598.3	2599.5	2219.1	1980.2	1745.7	1699.5	1629.7	1692.7	1751.9	1849.2
45°	2905.7	2915.7	2923.2	2540.3	2288.9	2019.5	1972.7	1845.5	1902.2	1990.8	2139.2
47.5°	3212.6	3195.1	3208.8	2897.6	2632.6	2331.9	2271.4	2099.9	2152.9	2277.7	2503.5
50°	3570.0	3561.8	3499.5	3364.1	3047.9	2648.8	2569.6	2365.6	2443.0	2609.5	2953.1
52.5°	3890.5	3846.9	3798.2	3730.9	3456.4	2969.3	2868.9	2641.9	2784.1	2990.6	3511.3
55°	4007.8	3978.5	4037.1	4124.4	3888.7	3296.2	3183.9	2964.4	3168.9	3426.5	4168.1
57.5°	4132.5	4142.5	4274.7	4451.2	4297.8	3644.8	3523.2	3346.0	3591.2	3914.2	4902.1
60°	4194.9	4234.8	4498.6	4829.8	4687.0	4027.1	3910.5	3784.5	4059.5	4453.1	5634.3
62.5°	4205.5	4259.1	4632.7	4962.6	5222.7	4612.7	4478.0	4341.4	4644.6	5048.7	6164.5
65°	4010.9	4093.2	4620.9	5126.0	5711.0	5591.3	5505.9	5267.6	5427.9	5573.2	6254.9
67.5°	3439.0	3528.8	4163.7	5058.7	6102.7	6606.7	6590.4	6238.7	6032.9	5775.9	5584.4
70°	2524.0	2596.4	3206.3	4324.6	5931.8	7403.7	7432.4	6868.0	6201.9	5345.6	4152.5
71°	2041.3	2103.7	2678.7	3839.4	5598.8	7444.9	7504.8	6896.0	6026.0	4957.0	3476.4
72.5°	1270.4	1305.4	1778.7	2897.6	4821.1	7020.8	7121.8	6536.8	5472.2	4189.9	2457.3
75°	479.6	493.3	659.9	1277.9	2877.7	5274.5	5396.7	4940.2	3844.4	2391.8	1028.5
77.5°	257.6	264.4	327.4	531.4	1153.2	3023.6	3180.8	2817.8	1844.2	837.0	420.4
80°	172.8	177.1	226.4	315.0	530.1	1151.3	1282.3	1131.4	690.4	477.7	299.4
82.5°	111.6	114.1	154.0	207.1	342.4	404.8	462.1	482.7	431.0	342.4	180.9
85°	73.6	75.5	101.7	132.2	212.1	199.6	204.6	267.6	293.8	225.8	92.3
87.5°	42.4	43.7	61.1	68.0	95.4	74.8	81.1	127.2	174.6	147.2	53.0
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°	1144.5	1144.5	1144.5	1144.5	1144.5	1144.5	1144.5	1144.5	1144.5	1144.5	1144.5
2.5°	1130.1	1125.1	1113.9	1107.0	1103.9	1102.7	1101.4	1103.9	1103.9	1102.7	1100.2
5°	1109.5	1100.2	1081.5	1068.4	1061.5	1059.6	1062.1	1065.2	1067.1	1067.1	1065.2
7.5°	1094.6	1080.8	1055.9	1037.8	1027.2	1024.1	1030.9	1042.2	1049.7	1053.4	1054.0
10°	1082.1	1063.4	1035.9	1017.2	1008.5	1007.2	1016.0	1030.3	1045.9	1052.8	1054.0
12.5°	1070.9	1049.7	1019.7	1002.3	996.0	999.1	1011.0	1024.1	1042.2	1052.2	1052.8
15°	1060.3	1038.4	1006.6	988.5	987.3	992.3	1003.5	1014.1	1027.8	1040.3	1040.3
17.5°	1047.8	1024.1	991.0	974.2	974.2	978.6	986.0	991.7	1000.4	1012.2	1011.6
20°	1032.8	1008.5	974.8	957.4	953.6	951.1	951.1	952.4	959.8	970.4	972.3
22.5°	1021.6	996.6	961.1	939.9	923.0	906.8	900.0	897.5	904.3	914.3	916.8
25°	1021.6	996.6	956.7	921.2	880.0	848.8	835.7	832.0	838.9	848.2	851.9
27.5°	1038.4	1013.5	966.7	904.3	828.9	779.0	763.4	760.3	766.5	774.0	777.7
30°	1077.7	1053.4	995.4	885.0	772.1	706.6	689.2	686.0	689.2	692.3	696.7
32.5°	1143.2	1122.6	1042.2	867.5	714.7	641.1	619.9	614.9	616.2	616.8	620.6
35°	1249.9	1240.5	1104.5	847.0	660.5	587.5	565.7	555.7	555.1	558.2	562.6
37.5°	1413.3	1418.9	1185.0	817.0	615.6	549.5	527.6	517.7	512.7	518.9	523.9
40°	1644.0	1657.1	1277.9	776.5	578.8	527.0	503.9	494.6	487.7	485.8	488.3
42.5°	1944.0	1940.3	1372.7	724.7	538.9	512.0	487.7	477.7	466.5	452.2	449.1
45°	2299.5	2245.9	1451.9	661.1	493.3	497.7	472.8	459.0	441.6	420.4	417.9
47.5°	2719.2	2571.4	1500.6	593.1	450.9	479.0	455.9	434.7	409.1	395.4	393.5
50°	3225.1	2952.5	1534.9	523.9	412.9	455.3	432.2	404.1	379.2	375.5	374.8
52.5°	3823.8	3402.2	1577.3	461.5	382.9	424.7	408.5	379.8	359.9	361.7	361.7
55°	4460.6	3867.4	1578.5	412.3	356.7	389.2	391.0	368.0	352.4	358.6	360.5
57.5°	5041.2	4274.1	1454.4	377.3	331.8	361.1	385.4	372.3	360.5	382.3	384.2
60°	5547.6	4587.2	1187.5	348.6	311.2	350.5	397.9	399.2	396.7	455.9	460.3
62.5°	5732.9	4590.3	843.2	324.3	300.0	356.7	424.1	426.0	426.0	480.9	489.0
65°	5473.4	4208.0	561.3	310.0	292.5	370.5	445.3	437.2	417.9	455.9	447.2
67.5°	4559.1	3275.6	410.4	300.6	281.9	371.1	464.0	443.4	410.4	442.8	427.8
70°	3133.4	2084.3	343.6	291.9	269.4	354.9	474.0	441.6	399.2	412.9	392.9
71°	2522.2	1663.4	326.2	288.8	264.4	345.5	475.2	439.1	393.5	402.3	384.2
72.5°	1661.5	1024.7	305.0	281.9	257.0	329.3	472.1	433.5	386.1	386.7	374.8
75°	655.5	424.7	274.4	266.3	235.8	303.1	458.4	421.6	371.7	359.2	354.3
77.5°	331.2	277.5	241.4	244.5	210.8	276.3	439.1	402.3	351.8	334.9	331.2
80°	242.0	210.8	206.4	212.1	182.7	250.1	414.7	376.1	326.2	343.6	336.2
82.5°	147.2	128.5	161.5	175.3	152.8	223.3	386.1	345.5	293.8	270.7	261.9
85°	69.9	75.5	116.6	129.1	112.9	178.4	353.0	311.8	256.3	221.4	225.1
87.5°	34.3	41.8	66.7	77.3	74.2	131.0	266.3	242.0	202.1	166.5	162.8
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)