

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: P196856

Luminaire Tested: **NAV-AF-02-D-UNV-T4W-7030-800**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196856  
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-02-D-UNV-T4W-7030-800  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 70 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9406.1 lumens  
Efficiency: N/A  
Efficacy: 110.7 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B2 - U0 - G2

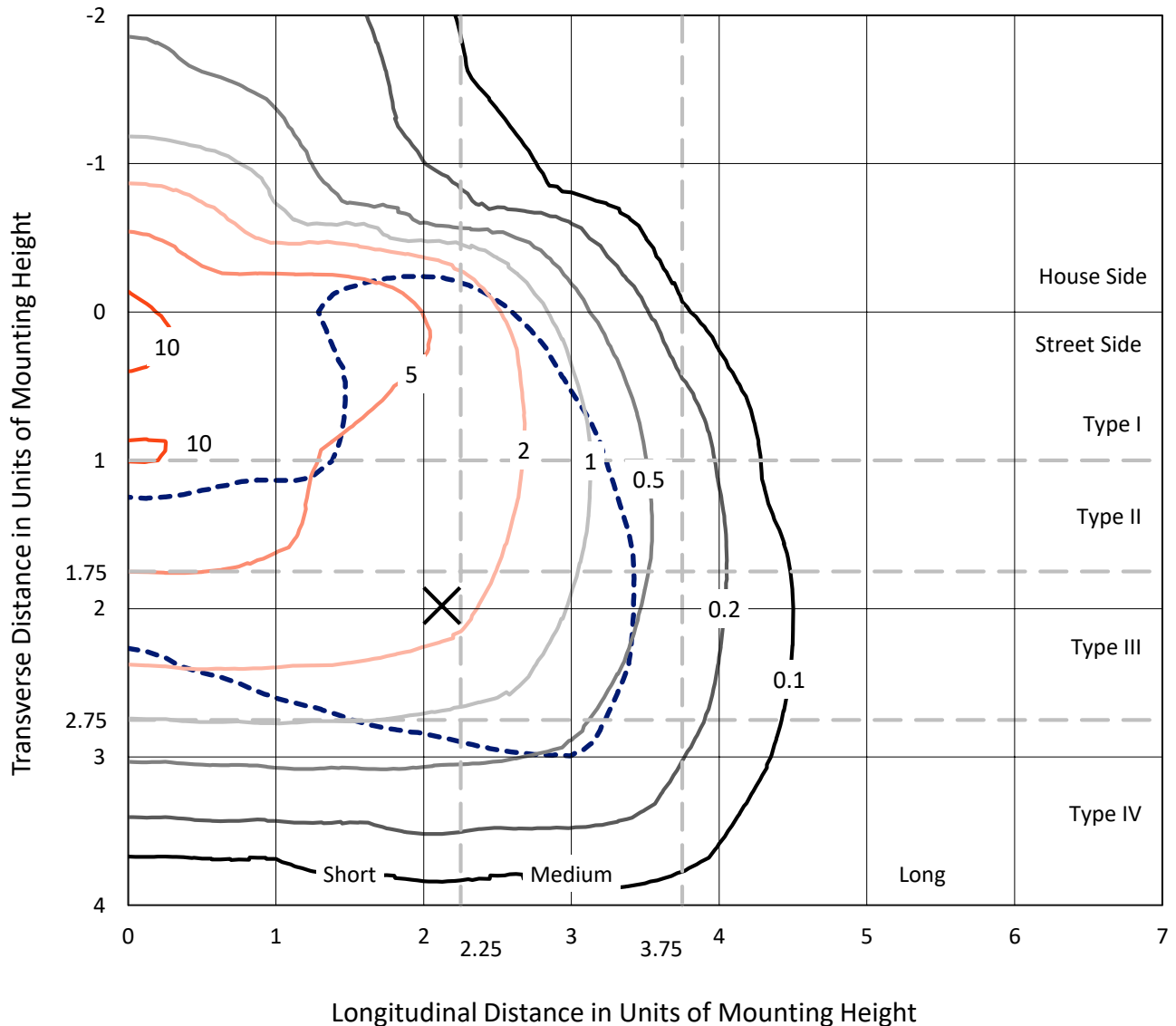
Input Watts (W): 85  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

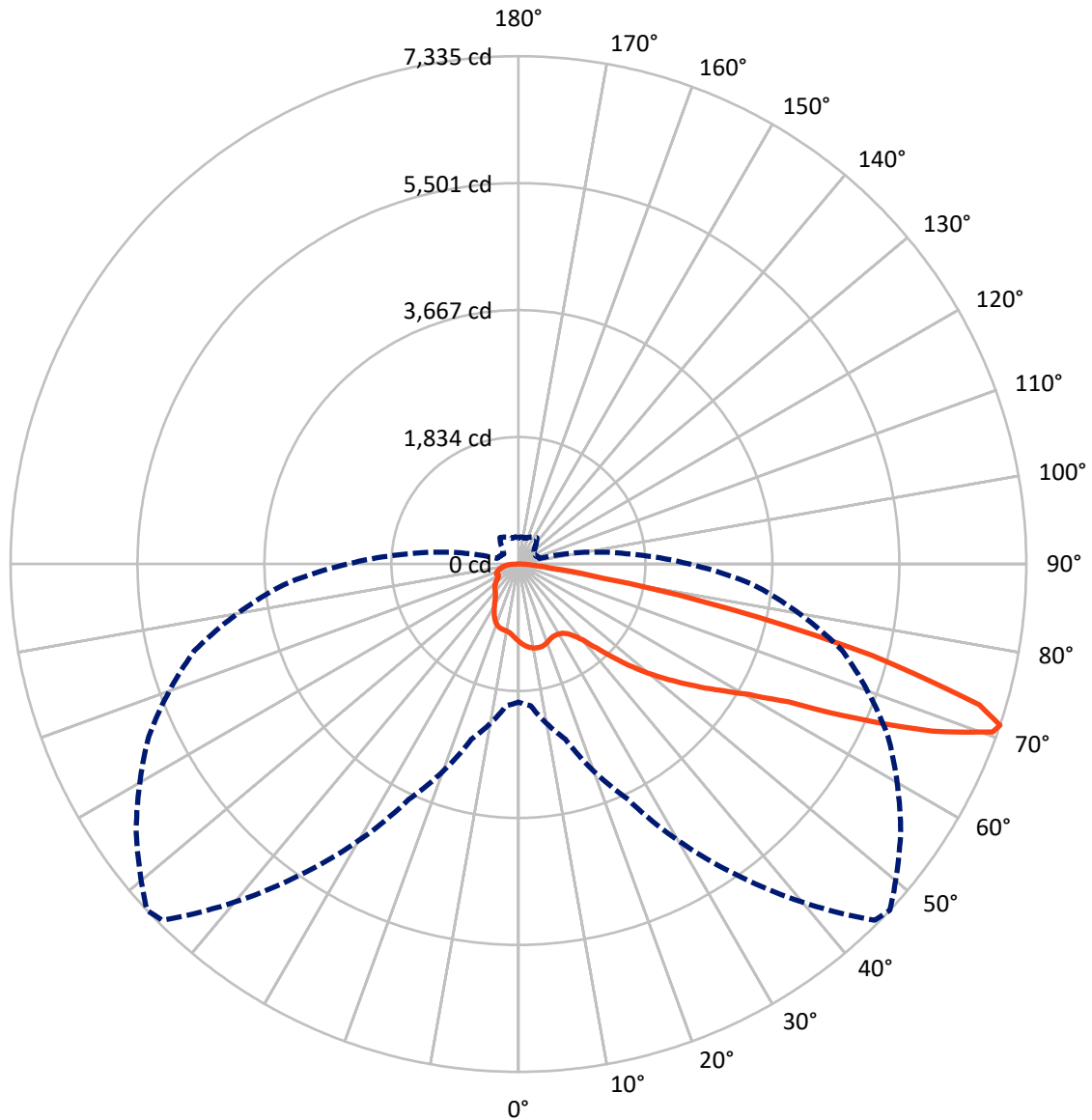
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 12.8 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	2015.9	0.0	2015.9
	% Fixture	21.4	0.0	21.4
<b>Street Side</b>	Lumens	7390.3	0.0	7390.3
	% Fixture	78.6	0.0	78.6
<b>Total</b>	Lumens	9406.1	0.0	9406.1
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	106.8	1.1
10°-20°	312.4	3.3
20°-30°	464.3	4.9
30°-40°	666.6	7.1
40°-50°	1182.0	12.6
50°-60°	2022.5	21.5
60°-70°	2871.3	30.5
70°-80°	1572.6	16.7
80°-90°	207.6	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°	9406.1	100.0
0°-180°	9406.1	100.0



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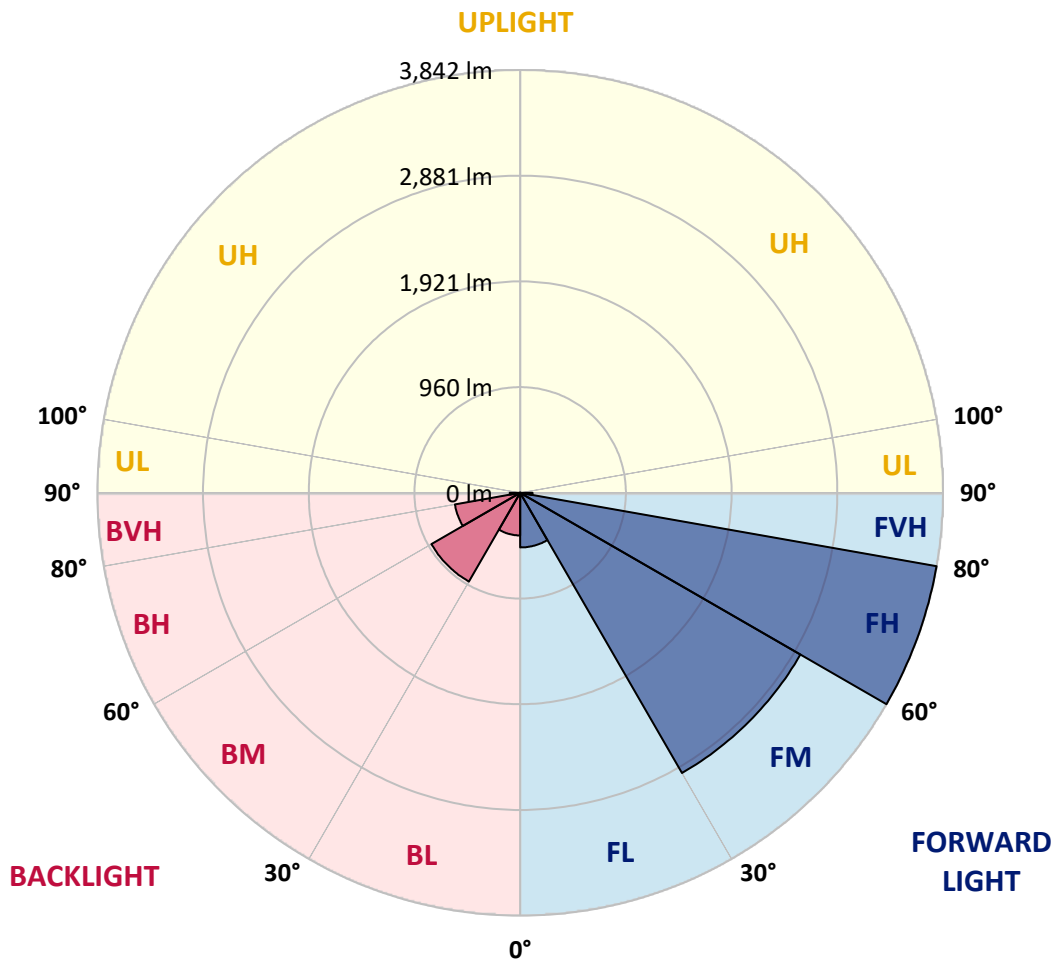
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	496.4	5.3			
FM	(30°-60°)	2939.7	31.3			
FH	(60°-80°)	3841.6	40.8			G2/5000
FVH	(80°-90°)	112.6	1.2			G2/225
BL	(0°-30°)	387.1	4.1	B1/500		
BM	(30°-60°)	931.4	9.9	B1/1000		
BH	(60°-80°)	602.3	6.4	B2/1000		G2/1000
BVH	(80°-90°)	95.0	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°	1118.6	1118.6	1118.6	1118.6	1118.6	1118.6	1118.6	1118.6	1118.6	1118.6	1118.6
2.5°	1186.8	1184.4	1185.6	1181.3	1170.9	1160.0	1160.0	1148.5	1136.2	1124.1	1110.6
5°	1260.6	1256.9	1253.9	1240.4	1220.3	1197.8	1194.1	1170.9	1146.0	1121.0	1096.6
7.5°	1322.1	1318.4	1309.4	1285.0	1255.7	1222.2	1217.9	1187.4	1154.6	1119.8	1085.6
10°	1366.1	1363.5	1346.0	1314.8	1280.7	1241.0	1233.7	1202.6	1163.6	1120.4	1077.1
12.5°	1390.5	1386.7	1365.4	1328.8	1288.6	1248.4	1241.0	1211.2	1166.7	1119.2	1068.5
15°	1380.7	1378.9	1358.7	1321.5	1281.3	1246.5	1240.4	1209.9	1164.9	1114.9	1060.7
17.5°	1339.2	1343.5	1327.6	1291.0	1258.1	1233.7	1227.1	1198.3	1155.8	1104.5	1048.5
20°	1281.9	1286.7	1278.9	1241.7	1222.8	1207.0	1203.3	1180.1	1140.4	1089.4	1033.8
22.5°	1221.0	1225.3	1225.8	1191.0	1185.0	1178.9	1175.8	1159.4	1127.1	1080.1	1024.1
25°	1178.9	1183.9	1185.0	1154.6	1158.1	1160.0	1159.4	1147.8	1124.6	1080.1	1025.3
27.5°	1167.9	1170.3	1169.2	1141.1	1147.8	1158.1	1158.8	1156.3	1134.4	1092.4	1042.4
30°	1205.6	1207.0	1191.7	1149.6	1156.3	1169.7	1170.3	1169.2	1155.1	1124.1	1080.8
32.5°	1369.1	1367.8	1315.5	1207.0	1183.9	1188.6	1190.5	1201.5	1202.6	1176.5	1136.2
35°	1617.8	1617.1	1556.2	1370.8	1261.8	1236.2	1238.7	1255.7	1270.9	1253.3	1230.1
37.5°	1891.5	1893.4	1856.1	1605.0	1429.9	1323.3	1321.0	1333.7	1361.2	1367.3	1370.3
40°	2195.0	2204.2	2202.3	1873.8	1665.9	1472.0	1447.6	1433.1	1486.2	1519.7	1563.0
42.5°	2541.9	2539.4	2540.6	2168.8	1935.3	1706.2	1661.1	1592.8	1654.4	1712.3	1807.3
45°	2839.9	2849.7	2857.0	2482.7	2237.1	1973.8	1928.1	1803.7	1859.1	1945.7	2090.7
47.5°	3139.9	3122.7	3136.2	2832.0	2572.9	2279.1	2220.0	2052.4	2104.3	2226.1	2446.8
50°	3489.0	3481.2	3420.3	3287.9	2979.0	2588.8	2511.5	2312.0	2387.7	2550.4	2886.3
52.5°	3802.4	3759.8	3712.2	3646.4	3378.2	2902.2	2804.0	2582.2	2721.1	2922.9	3431.9
55°	3917.1	3888.4	3945.7	4031.0	3800.6	3221.5	3111.8	2897.2	3097.2	3348.9	4073.7
57.5°	4039.0	4048.7	4178.0	4350.4	4200.5	3562.3	3443.5	3270.3	3509.9	3825.6	4791.1
60°	4100.0	4139.0	4396.8	4720.4	4580.9	3935.9	3822.0	3698.9	3967.6	4352.3	5506.7
62.5°	4110.3	4162.7	4527.8	4850.2	5104.5	4508.4	4376.7	4243.2	4539.4	4934.3	6024.9
65°	3920.1	4000.5	4516.2	5010.0	5581.7	5464.7	5381.2	5148.4	5305.0	5447.0	6113.3
67.5°	3361.2	3448.9	4069.5	4944.2	5964.6	6457.1	6441.3	6097.4	5896.2	5645.2	5458.0
70°	2466.8	2537.6	3133.8	4226.7	5797.6	7236.1	7264.1	6712.5	6061.4	5224.6	4058.4
71°	1995.1	2056.0	2618.1	3752.5	5472.0	7276.3	7334.9	6739.8	5889.6	4844.8	3397.8
72.5°	1241.7	1275.8	1738.5	2832.0	4712.0	6861.8	6960.6	6388.8	5348.3	4095.0	2401.6
75°	468.7	482.2	644.9	1249.0	2812.6	5155.1	5274.5	4828.3	3757.3	2337.7	1005.1
77.5°	251.8	258.5	320.0	519.3	1127.1	2955.1	3108.8	2754.0	1802.4	818.1	410.9
80°	168.8	173.0	221.2	307.8	518.1	1125.3	1253.3	1105.7	674.7	467.0	292.6
82.5°	109.2	111.6	150.6	202.3	334.7	395.6	451.7	471.8	421.2	334.7	176.8
85°	71.9	73.8	99.3	129.3	207.3	195.0	200.0	261.4	287.2	220.7	90.2
87.5°	41.4	42.7	59.8	66.4	93.3	73.1	79.2	124.3	170.7	143.9	51.8
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°	1118.6	1118.6	1118.6	1118.6	1118.6	1118.6	1118.6	1118.6	1118.6	1118.6	1118.6
2.5°	1104.5	1099.7	1088.7	1082.0	1078.9	1077.8	1076.5	1078.9	1078.9	1077.8	1075.2
5°	1084.4	1075.2	1057.0	1044.2	1037.5	1035.7	1038.1	1041.1	1043.0	1043.0	1041.1
7.5°	1069.7	1056.3	1032.0	1014.4	1004.0	1001.0	1007.6	1018.7	1026.0	1029.6	1030.2
10°	1057.6	1039.3	1012.5	994.1	985.6	984.4	992.9	1007.1	1022.2	1028.9	1030.2
12.5°	1046.6	1026.0	996.7	979.6	973.5	976.6	988.1	1001.0	1018.7	1028.3	1028.9
15°	1036.3	1014.9	983.9	966.2	965.0	969.7	980.8	991.2	1004.5	1016.7	1016.7
17.5°	1024.1	1001.0	968.6	952.0	952.0	956.4	963.6	969.2	977.8	989.4	988.7
20°	1009.4	985.6	952.7	935.7	932.0	929.6	929.6	930.8	938.1	948.5	950.3
22.5°	998.4	974.0	939.3	918.7	902.2	886.3	879.6	877.2	883.9	893.6	896.0
25°	998.4	974.0	935.0	900.3	860.1	829.6	816.8	813.1	819.9	829.0	832.7
27.5°	1014.9	990.6	944.9	883.9	810.1	761.3	746.1	743.1	749.2	756.5	760.1
30°	1053.4	1029.6	972.9	865.0	754.7	690.6	673.6	670.6	673.6	676.7	680.9
32.5°	1117.2	1097.2	1018.7	847.9	698.6	626.6	606.0	601.0	602.2	602.9	606.5
35°	1221.5	1212.4	1079.5	827.7	645.5	574.1	552.9	543.1	542.5	545.5	549.8
37.5°	1381.2	1386.7	1158.1	798.5	601.7	537.0	515.7	506.0	501.1	507.2	512.0
40°	1606.7	1619.7	1249.0	759.0	565.6	515.0	492.5	483.4	476.7	474.8	477.3
42.5°	1900.0	1896.3	1341.6	708.3	526.6	500.4	476.7	467.0	455.9	442.0	438.9
45°	2247.5	2195.0	1419.1	646.2	482.2	486.4	462.0	448.6	431.6	410.9	408.4
47.5°	2657.7	2513.2	1466.6	579.7	440.8	468.1	445.6	424.9	399.9	386.4	384.6
50°	3152.0	2885.6	1500.1	512.0	403.5	445.0	422.4	395.0	370.6	367.0	366.3
52.5°	3737.2	3325.2	1541.5	451.0	374.3	415.0	399.3	371.3	351.7	353.6	353.6
55°	4359.6	3780.0	1542.8	402.9	348.6	380.3	382.2	359.7	344.3	350.5	352.4
57.5°	4927.0	4177.3	1421.5	368.8	324.3	352.9	376.7	364.0	352.4	373.6	375.6
60°	5422.1	4483.4	1160.6	340.8	304.2	342.5	388.9	390.2	387.7	445.6	449.8
62.5°	5603.2	4486.4	824.2	317.0	293.3	348.6	414.5	416.3	416.3	470.0	477.9
65°	5349.6	4112.7	548.6	302.9	285.9	362.0	435.2	427.3	408.4	445.6	437.0
67.5°	4455.9	3201.4	401.1	293.8	275.6	362.7	453.5	433.4	401.1	432.7	418.1
70°	3062.4	2037.1	335.9	285.2	263.4	346.8	463.3	431.6	390.2	403.5	384.0
71°	2465.1	1625.7	318.8	282.2	258.5	337.7	464.5	429.2	384.6	393.2	375.6
72.5°	1623.9	1001.5	298.1	275.6	251.2	321.9	461.4	423.6	377.3	377.9	366.3
75°	640.7	415.0	268.2	260.2	230.4	296.2	448.1	412.0	363.3	351.2	346.3
77.5°	323.6	271.3	235.9	239.0	206.1	270.1	429.2	393.2	343.8	327.3	323.6
80°	236.5	206.1	201.8	207.3	178.6	244.4	405.4	367.5	318.8	335.9	328.6
82.5°	143.9	125.5	157.9	171.3	149.3	218.2	377.3	337.7	287.2	264.5	256.0
85°	68.3	73.8	113.9	126.2	110.4	174.4	345.0	304.9	250.5	216.5	220.0
87.5°	33.6	40.9	65.2	75.6	72.5	128.1	260.2	236.5	197.5	162.8	159.1
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)