

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: P195416

Luminaire Tested: **NAV-AF-02-D-UNV-T4W-7060-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195416
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-7060-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5700K, 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: 9725 lumens
Efficiency: N/A
Efficacy: 114.4 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

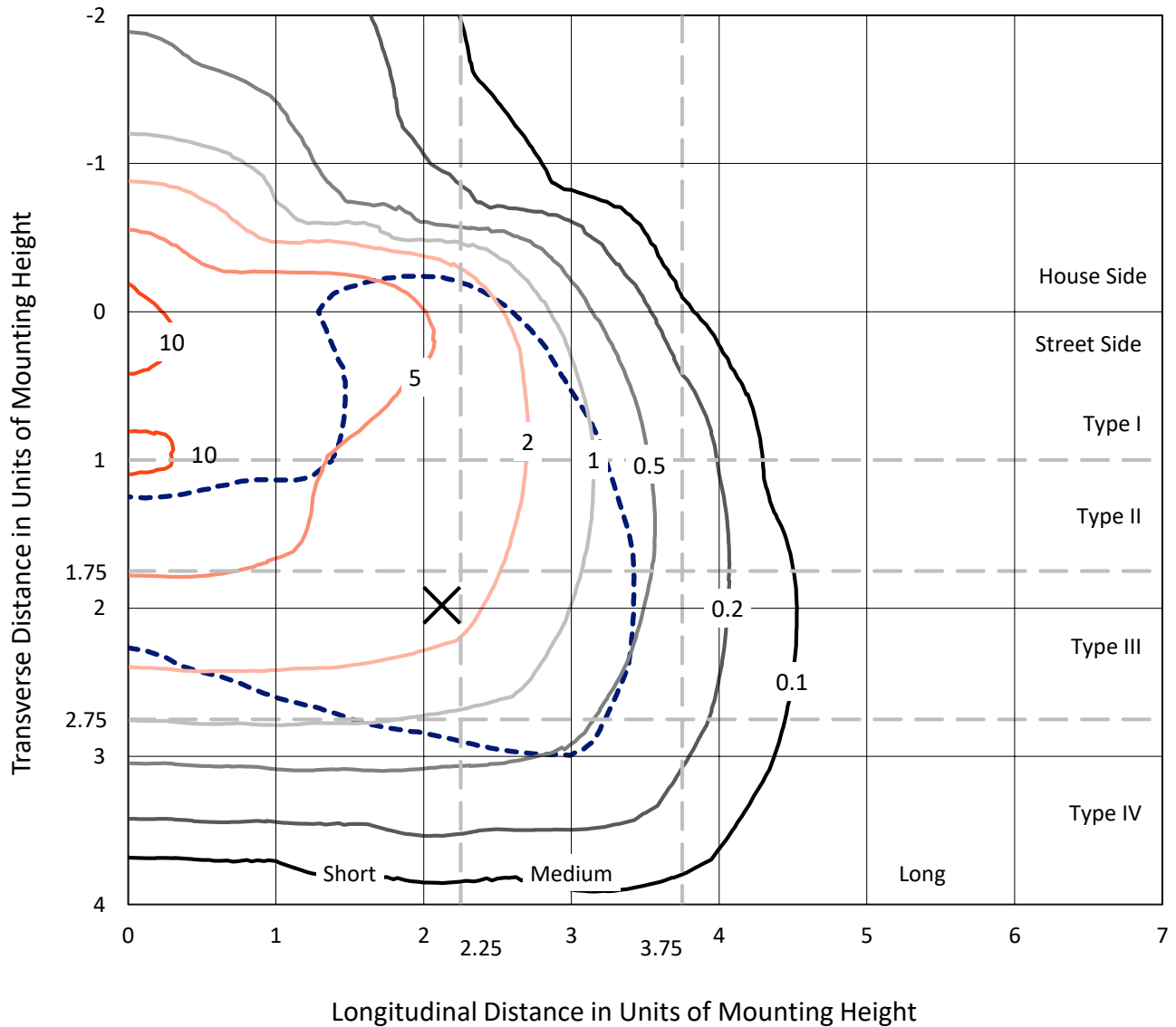
Input Watts (W): 85
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

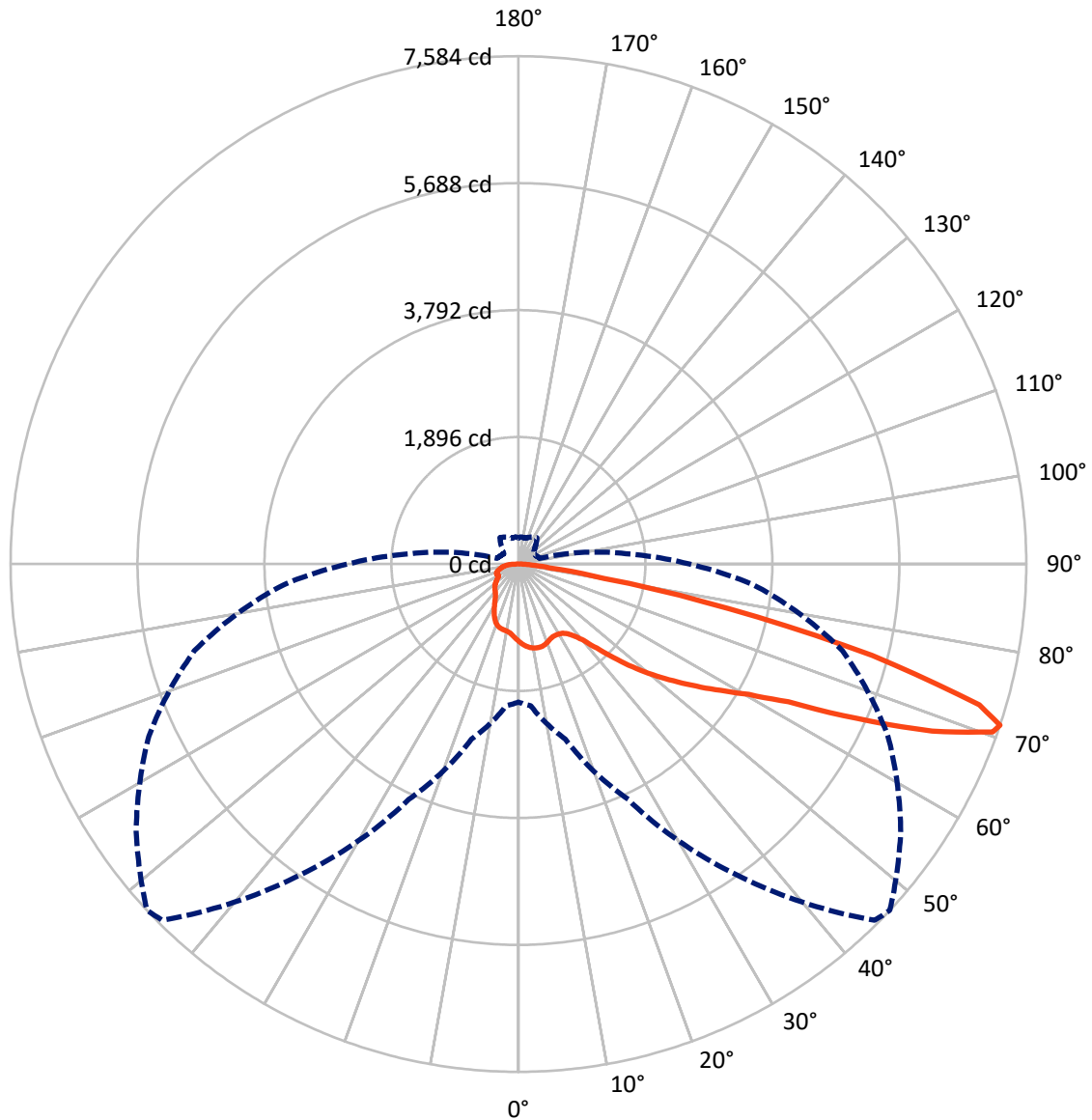
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 13.3 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
House Side	Lumens	2084.2	0.0	2084.2
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	7640.8	0.0	7640.8
	% Fixture	78.6	0.0	78.6
Total	Lumens	9725.0	0.0	9725.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.4	1.1
10°-20°	323.0	3.3
20°-30°	480.0	4.9
30°-40°	689.2	7.1
40°-50°	1222.0	12.6
50°-60°	2091.1	21.5
60°-70°	2968.6	30.5
70°-80°	1625.9	16.7
80°-90°	214.6	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°	9725.0	100.0
0°-180°	9725.0	100.0

Coefficient of Utilization



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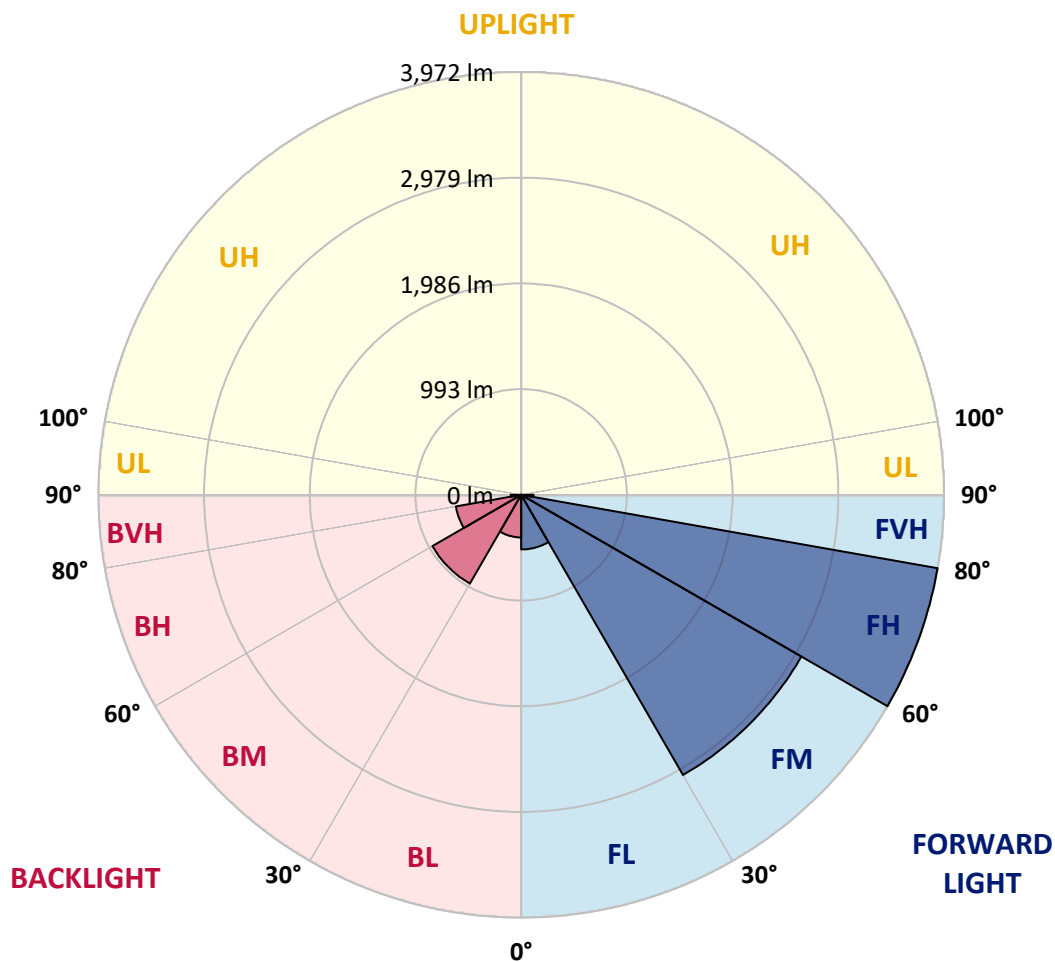
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	513.2	5.3			
FM	(30°-60°)	3039.4	31.3			
FH	(60°-80°)	3971.8	40.8			G2/5000
FVH	(80°-90°)	116.4	1.2			G2/225
BL	(0°-30°)	400.2	4.1	B1/500		
BM	(30°-60°)	963.0	9.9	B1/1000		
BH	(60°-80°)	622.7	6.4	B2/1000		G2/1000
BVH	(80°-90°)	98.2	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°	1156.5	1156.5	1156.5	1156.5	1156.5	1156.5	1156.5	1156.5	1156.5	1156.5	1156.5
2.5°	1227.1	1224.5	1225.8	1221.4	1210.7	1199.3	1199.3	1187.3	1174.7	1162.1	1148.3
5°	1303.3	1299.5	1296.4	1282.5	1261.7	1238.4	1234.6	1210.7	1184.8	1159.0	1133.8
7.5°	1367.0	1363.2	1353.7	1328.5	1298.3	1263.6	1259.2	1227.7	1193.6	1157.7	1122.4
10°	1412.3	1409.8	1391.5	1359.4	1324.1	1283.1	1275.6	1243.4	1203.1	1158.4	1113.6
12.5°	1437.5	1433.8	1411.7	1373.9	1332.3	1290.7	1283.1	1252.3	1206.3	1157.1	1104.8
15°	1427.5	1425.6	1404.8	1366.3	1324.7	1288.8	1282.5	1251.0	1204.4	1152.7	1096.6
17.5°	1384.6	1389.0	1372.6	1334.8	1300.8	1275.6	1268.6	1239.0	1194.9	1142.0	1084.0
20°	1325.4	1330.4	1322.2	1283.8	1264.2	1247.8	1244.1	1220.1	1179.2	1126.2	1068.9
22.5°	1262.3	1266.8	1267.4	1231.5	1225.2	1218.9	1215.7	1198.7	1165.3	1116.8	1058.8
25°	1218.9	1223.9	1225.2	1193.6	1197.4	1199.3	1198.7	1186.7	1162.8	1116.8	1060.0
27.5°	1207.5	1210.0	1208.8	1179.8	1186.7	1197.4	1198.1	1195.5	1172.9	1129.4	1077.7
30°	1246.6	1247.8	1232.1	1188.6	1195.5	1209.4	1210.0	1208.8	1194.3	1162.1	1117.4
32.5°	1415.5	1414.2	1360.0	1247.8	1223.9	1228.9	1230.8	1242.2	1243.4	1216.3	1174.7
35°	1672.6	1672.0	1609.0	1417.4	1304.6	1278.1	1280.6	1298.3	1314.0	1295.7	1271.8
37.5°	1955.6	1957.5	1919.0	1659.4	1478.5	1368.2	1365.7	1378.9	1407.3	1413.6	1416.7
40°	2269.4	2278.9	2277.0	1937.3	1722.4	1522.0	1496.8	1481.7	1536.5	1571.2	1615.9
42.5°	2628.0	2625.5	2626.8	2242.3	2001.0	1764.0	1717.4	1646.8	1710.4	1770.3	1868.6
45°	2936.2	2946.3	2953.9	2566.9	2312.9	2040.7	1993.4	1864.8	1922.2	2011.7	2161.7
47.5°	3246.3	3228.6	3242.5	2928.0	2660.2	2356.4	2295.3	2122.0	2175.5	2301.6	2529.7
50°	3607.4	3599.2	3536.2	3399.4	3079.9	2676.6	2596.5	2390.4	2468.6	2636.9	2984.1
52.5°	3931.4	3887.2	3838.1	3770.0	3492.7	3000.5	2899.0	2669.6	2813.3	3021.9	3548.2
55°	4049.8	4020.2	4079.5	4167.7	3929.5	3330.7	3217.3	2995.5	3202.2	3462.5	4211.8
57.5°	4175.9	4186.0	4319.6	4497.9	4342.9	3683.0	3560.1	3381.2	3628.8	3955.3	4953.6
60°	4238.9	4279.2	4545.8	4880.5	4736.2	4069.4	3951.5	3824.2	4102.1	4499.8	5693.5
62.5°	4249.6	4303.8	4681.3	5014.7	5277.5	4661.2	4525.0	4387.0	4693.3	5101.7	6229.2
65°	4053.0	4136.2	4669.3	5179.8	5771.0	5650.0	5563.6	5322.9	5484.9	5631.7	6320.5
67.5°	3475.1	3565.8	4207.4	5111.8	6166.8	6676.0	6659.6	6304.2	6096.2	5836.5	5643.0
70°	2550.5	2623.6	3240.0	4370.0	5994.1	7481.4	7510.4	6940.1	6267.0	5401.7	4196.0
71°	2062.7	2125.8	2706.8	3879.7	5657.5	7523.0	7583.5	6968.4	6089.2	5009.0	3512.9
72.5°	1283.8	1319.1	1797.4	2928.0	4871.6	7094.5	7196.6	6605.4	5529.6	4233.9	2483.1
75°	484.6	498.5	666.8	1291.3	2907.9	5329.8	5453.3	4992.0	3884.7	2416.9	1039.2
77.5°	260.3	267.2	330.9	537.0	1165.3	3055.3	3214.2	2847.4	1863.6	845.8	424.8
80°	174.6	179.0	228.8	318.3	535.7	1163.4	1295.7	1143.2	697.7	482.8	302.5
82.5°	112.8	115.3	155.7	209.2	346.0	409.0	467.0	487.8	435.5	346.0	182.8
85°	74.4	76.3	102.7	133.6	214.3	201.7	206.7	270.4	296.8	228.1	93.3
87.5°	42.9	44.1	61.8	68.7	96.4	75.6	81.9	128.6	176.5	148.7	53.6
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°	1156.5	1156.5	1156.5	1156.5	1156.5	1156.5	1156.5	1156.5	1156.5	1156.5	1156.5
2.5°	1142.0	1136.9	1125.6	1118.7	1115.5	1114.2	1113.0	1115.5	1115.5	1114.2	1111.7
5°	1121.2	1111.7	1092.8	1079.6	1072.6	1070.8	1073.3	1076.4	1078.3	1078.3	1076.4
7.5°	1106.0	1092.2	1067.0	1048.7	1038.0	1034.8	1041.8	1053.1	1060.7	1064.5	1065.1
10°	1093.4	1074.5	1046.8	1027.9	1019.1	1017.8	1026.6	1041.1	1056.9	1063.8	1065.1
12.5°	1082.1	1060.7	1030.4	1012.8	1006.5	1009.6	1021.6	1034.8	1053.1	1063.2	1063.8
15°	1071.4	1049.3	1017.2	998.9	997.6	1002.7	1014.0	1024.7	1038.6	1051.2	1051.2
17.5°	1058.8	1034.8	1001.4	984.4	984.4	988.8	996.4	1002.1	1010.9	1022.9	1022.2
20°	1043.7	1019.1	985.0	967.4	963.6	961.1	961.1	962.4	969.9	980.6	982.5
22.5°	1032.3	1007.1	971.2	949.8	932.7	916.3	909.4	906.9	913.8	923.9	926.4
25°	1032.3	1007.1	966.8	930.8	889.2	857.7	844.5	840.7	847.7	857.1	860.9
27.5°	1049.3	1024.1	976.9	913.8	837.6	787.2	771.4	768.2	774.5	782.1	785.9
30°	1089.0	1064.5	1005.8	894.3	780.2	714.0	696.4	693.2	696.4	699.6	704.0
32.5°	1155.2	1134.4	1053.1	876.6	722.2	647.9	626.4	621.4	622.7	623.3	627.1
35°	1263.0	1253.5	1116.1	855.8	667.4	593.7	571.6	561.5	560.9	564.1	568.5
37.5°	1428.1	1433.8	1197.4	825.6	622.0	555.2	533.2	523.1	518.0	524.3	529.4
40°	1661.3	1674.5	1291.3	784.6	584.9	532.5	509.2	499.8	492.8	490.9	493.5
42.5°	1964.4	1960.6	1387.1	732.3	544.5	517.4	492.8	482.8	471.4	456.9	453.8
45°	2323.6	2269.4	1467.2	668.0	498.5	502.9	477.7	463.8	446.2	424.8	422.3
47.5°	2747.8	2598.4	1516.3	599.3	455.7	484.0	460.7	439.3	413.4	399.6	397.7
50°	3258.9	2983.5	1551.0	529.4	417.2	460.1	436.7	408.4	383.2	379.4	378.8
52.5°	3863.9	3437.9	1593.8	466.4	387.0	429.2	412.8	383.8	363.6	365.5	365.5
55°	4507.4	3908.0	1595.1	416.6	360.5	393.3	395.2	371.8	356.1	362.4	364.3
57.5°	5094.1	4318.9	1469.7	381.3	335.3	364.9	389.5	376.2	364.3	386.3	388.2
60°	5605.9	4635.3	1200.0	352.3	314.5	354.2	402.1	403.3	400.8	460.7	465.1
62.5°	5793.0	4638.5	852.1	327.7	303.1	360.5	428.6	430.4	430.4	485.9	494.1
65°	5530.9	4252.1	567.2	313.2	295.6	374.4	450.0	441.8	422.3	460.7	451.9
67.5°	4607.0	3309.9	414.7	303.8	284.9	375.0	468.9	448.1	414.7	447.5	432.3
70°	3166.3	2106.2	347.3	294.9	272.3	358.6	479.0	446.2	403.3	417.2	397.0
71°	2548.6	1680.8	329.6	291.8	267.2	349.1	480.2	443.7	397.7	406.5	388.2
72.5°	1678.9	1035.5	308.2	284.9	259.7	332.8	477.1	438.0	390.1	390.7	378.8
75°	662.4	429.2	277.3	269.1	238.2	306.3	463.2	426.0	375.6	363.0	358.0
77.5°	334.7	280.5	243.9	247.0	213.0	279.2	443.7	406.5	355.4	338.4	334.7
80°	244.5	213.0	208.6	214.3	184.7	252.7	419.1	380.0	329.6	347.3	339.7
82.5°	148.7	129.8	163.2	177.1	154.4	225.6	390.1	349.1	296.8	273.5	264.7
85°	70.6	76.3	117.9	130.5	114.1	180.2	356.7	315.1	259.0	223.7	227.5
87.5°	34.7	42.2	67.4	78.1	75.0	132.3	269.1	244.5	204.2	168.3	164.5
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)