

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: P196099

Luminaire Tested: **NAV-AF-01-D-UNV-SL2-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196099
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24257)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-01-D-UNV-SL2-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 4000K, 1200mA LIGHTSQUARE WITH 16 LEDS EACH AND TYPE II SPILL
LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6720.8 lumens
Efficiency: N/A
Efficacy: 100.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B1 - U0 - G2

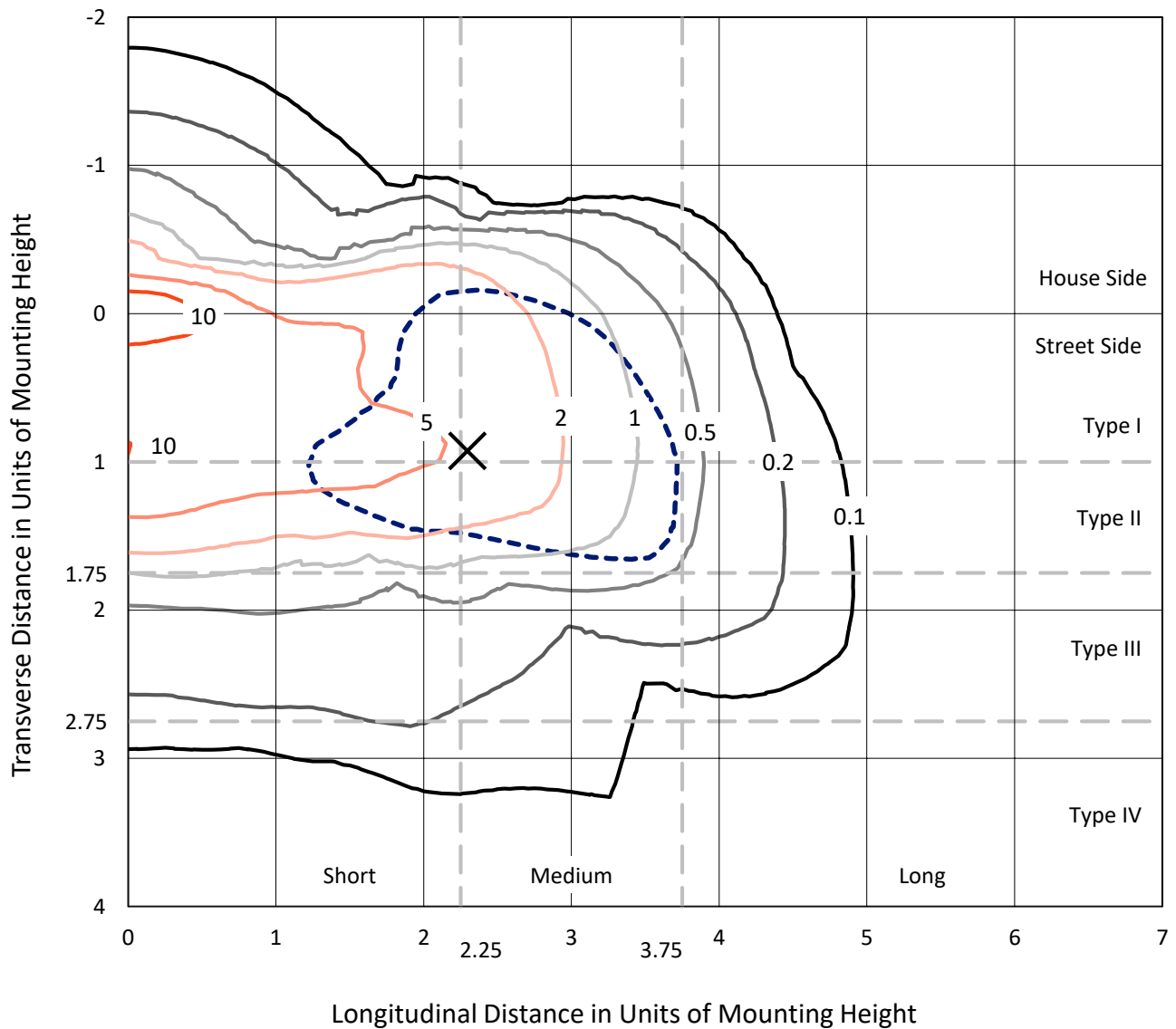
Input Watts (W): 67
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

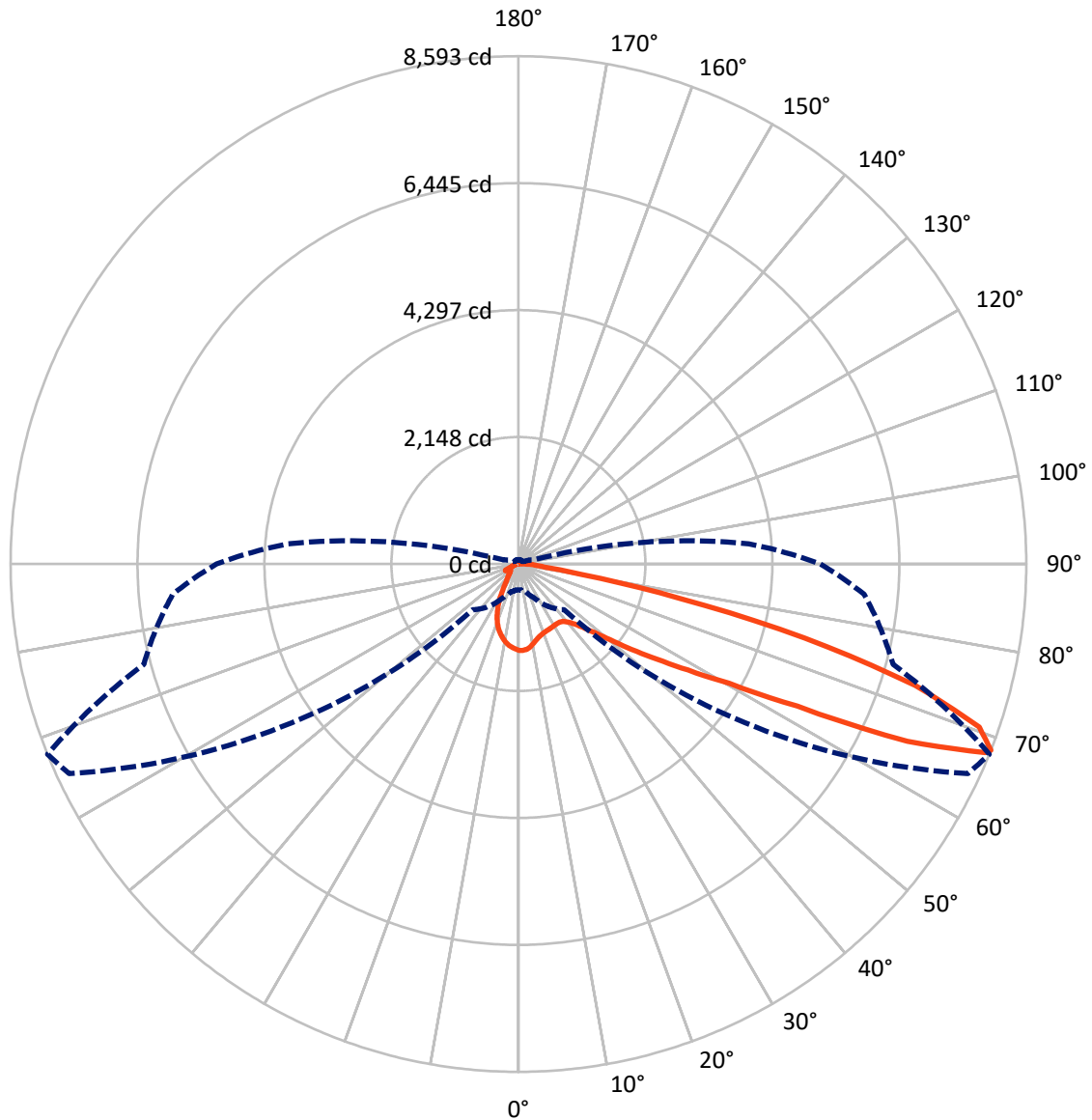
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 14.6 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1099.5	0.0	1099.5
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	5621.3	0.0	5621.3
	% Fixture	83.6	0.0	83.6
Total	Lumens	6720.8	0.0	6720.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.3	1.9
10°-20°	290.6	4.3
20°-30°	393.1	5.8
30°-40°	554.2	8.2
40°-50°	911.3	13.6
50°-60°	1412.6	21.0
60°-70°	1831.5	27.3
70°-80°	1051.0	15.6
80°-90°	151.2	2.3
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°	6720.8	100.0
0°-180°	6720.8	100.0



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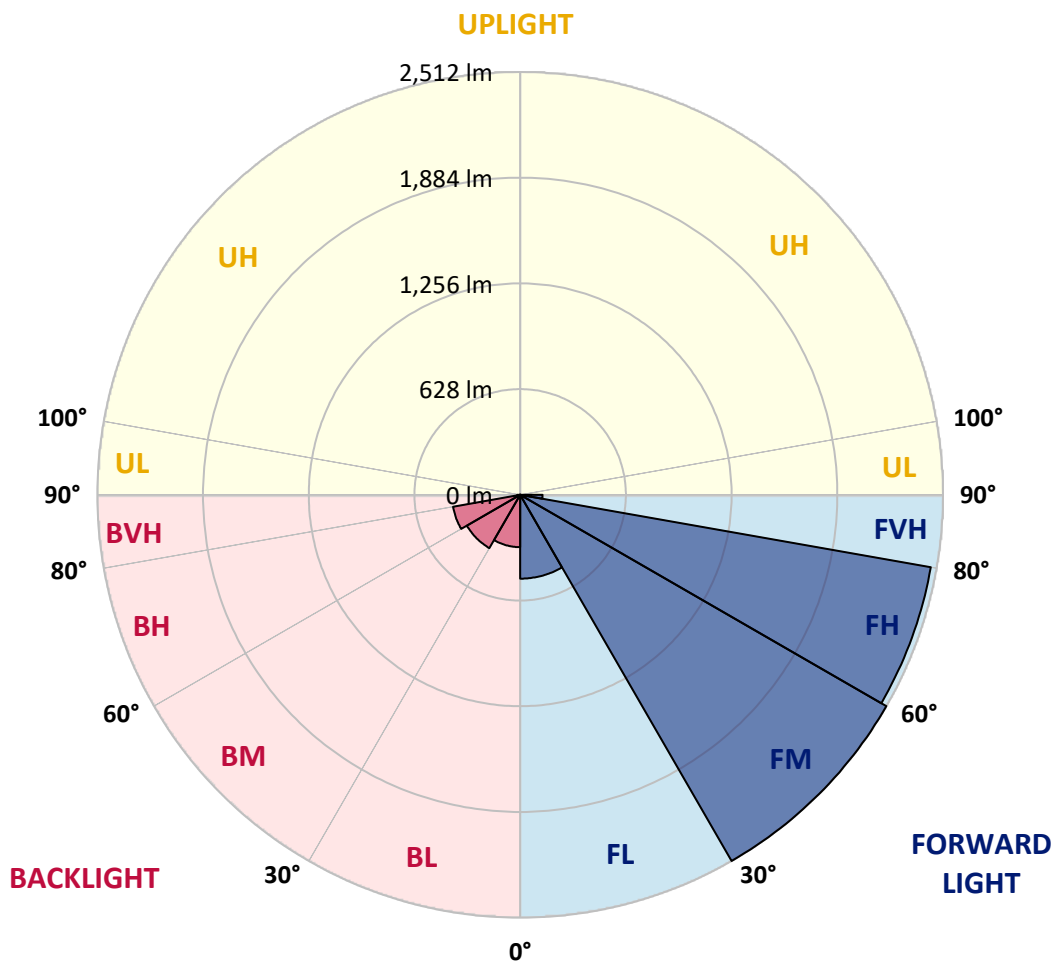
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	498.1	7.4			
FM (30°-60°)	2512.3	37.4			
FH (60°-80°)	2477.6	36.9			G2/5000
FVH (80°-90°)	133.2	2.0			G2/225
BL (0°-30°)	310.8	4.6	B1/500		
BM (30°-60°)	365.7	5.4	B1/1000		
BH (60°-80°)	404.9	6.0	B1/500		G1/500
BVH (80°-90°)	18.0	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	1462.4	1462.4	1462.4	1462.4	1462.4	1462.4	1462.4	1462.4	1462.4	1462.4	1462.4
2.5°	1423.3	1434.7	1434.7	1443.1	1450.5	1456.7	1461.9	1461.9	1461.9	1458.4	1455.4
5°	1273.6	1289.0	1291.2	1312.2	1339.9	1373.7	1411.5	1444.8	1451.4	1463.7	1468.5
7.5°	1169.5	1174.3	1182.7	1197.3	1225.3	1267.0	1326.3	1400.9	1418.9	1457.6	1477.8
10°	1095.8	1099.8	1106.7	1121.3	1146.7	1184.5	1242.9	1339.9	1369.7	1438.3	1478.2
12.5°	1041.8	1044.8	1051.5	1064.6	1090.6	1124.3	1184.1	1285.0	1321.9	1418.9	1484.3
15°	999.6	1004.9	1010.2	1023.0	1049.2	1081.8	1142.3	1245.0	1285.0	1403.6	1495.8
17.5°	983.0	985.6	986.5	993.1	1016.8	1049.8	1110.3	1217.0	1258.2	1391.2	1504.6
20°	993.5	993.9	985.2	980.8	994.4	1024.7	1083.5	1195.9	1238.1	1380.3	1508.0
22.5°	1039.6	1039.6	1016.8	997.5	988.3	1007.1	1065.5	1181.4	1227.0	1372.0	1508.0
25°	1127.4	1123.5	1087.9	1049.8	1008.8	1001.0	1054.0	1172.2	1218.7	1367.6	1502.3
27.5°	1242.9	1239.4	1194.1	1137.5	1063.8	1014.2	1050.2	1164.7	1210.4	1360.9	1490.0
30°	1383.3	1380.3	1328.9	1254.8	1145.8	1055.9	1059.4	1159.4	1203.8	1350.0	1469.4
32.5°	1523.4	1521.6	1480.8	1404.9	1259.2	1126.6	1083.5	1158.6	1200.3	1336.8	1444.4
35°	1664.3	1664.3	1639.3	1575.2	1411.5	1232.8	1134.0	1174.9	1206.9	1329.8	1422.8
37.5°	1872.4	1864.1	1817.6	1751.3	1603.3	1370.7	1215.7	1209.0	1232.3	1341.7	1415.9
40°	2194.6	2170.5	2054.2	1942.7	1812.8	1547.1	1335.1	1275.3	1289.4	1382.0	1432.5
42.5°	2531.8	2493.6	2339.6	2161.3	2029.1	1764.9	1491.8	1382.9	1382.5	1460.2	1485.6
45°	2821.2	2801.4	2634.6	2408.4	2276.4	2009.9	1689.8	1542.7	1527.0	1581.4	1587.9
47.5°	2989.3	2976.2	2875.6	2670.1	2569.6	2299.2	1940.9	1764.4	1734.6	1767.0	1756.9
50°	2942.7	2955.5	2926.6	2821.6	2884.8	2705.7	2260.9	2068.2	2011.6	2044.1	2019.5
52.5°	2697.8	2732.0	2758.0	2778.1	3066.1	3249.6	2663.2	2447.5	2400.6	2394.8	2371.2
55°	2256.5	2311.1	2392.7	2541.1	3017.4	3686.5	3365.5	2906.3	2837.9	2801.9	2811.1
57.5°	1535.7	1618.2	1794.3	2076.6	2764.1	3872.6	4404.3	3499.0	3383.1	3254.9	3284.8
60°	846.0	914.9	1124.3	1408.8	2185.8	3845.0	5324.9	4462.2	4097.4	3757.6	3819.1
62.5°	547.5	562.4	718.2	962.3	1341.7	3394.6	5836.3	6072.1	5299.0	4420.5	4507.0
65°	439.9	450.4	526.8	776.2	934.7	2183.7	5859.2	7742.2	7232.5	5321.4	5324.0
67.5°	429.8	434.7	478.9	652.8	876.8	1188.9	5064.5	8400.7	8518.8	6384.7	5870.6
68°	436.0	441.6	486.4	632.6	876.3	1095.8	4680.8	8390.5	8593.0	6562.5	5870.6
70°	384.6	391.6	496.1	654.6	838.9	942.1	3205.3	7945.0	8270.8	6971.2	5570.3
72.5°	201.1	195.4	245.4	516.7	944.3	981.6	1693.3	6637.6	7017.7	6456.3	4812.6
75°	156.7	142.7	137.4	204.2	830.6	1018.1	983.4	4717.7	5004.9	4654.1	3216.7
77.5°	147.5	130.4	120.3	120.7	365.7	1059.4	795.5	2776.4	2776.4	2220.1	1026.4
80°	118.6	102.7	96.2	109.8	176.5	976.4	830.2	1265.3	1079.1	573.8	282.7
82.5°	78.2	69.8	70.3	89.1	133.9	651.9	961.5	624.7	469.3	254.2	166.4
85°	49.6	42.6	47.5	62.3	100.1	290.6	951.8	434.2	310.9	142.7	83.0
87.5°	25.1	19.3	23.7	32.5	61.1	83.4	783.7	387.7	230.5	59.2	45.2
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°	1462.4	1462.4	1462.4	1462.4	1462.4	1462.4	1462.4	1462.4	1462.4	1462.4	1462.4
2.5°	1455.4	1445.7	1440.8	1432.9	1423.3	1413.6	1407.1	1404.0	1402.3	1403.1	1402.7
5°	1465.9	1453.2	1432.5	1403.1	1372.8	1340.8	1316.2	1297.3	1285.4	1282.0	1281.0
7.5°	1473.8	1455.4	1416.7	1363.2	1311.3	1255.2	1207.3	1169.1	1143.2	1131.4	1130.9
10°	1472.4	1448.8	1387.7	1308.8	1232.8	1150.2	1075.1	1011.1	964.5	942.1	941.2
12.5°	1473.8	1441.3	1352.2	1245.0	1136.2	1018.1	906.5	806.9	737.5	704.6	703.3
15°	1479.1	1433.4	1315.7	1173.9	1023.4	856.5	697.1	572.0	508.8	487.3	487.3
17.5°	1478.7	1420.3	1273.6	1091.4	889.5	666.0	475.9	398.6	392.5	412.2	415.3
20°	1469.9	1399.2	1219.2	993.5	732.3	460.9	322.6	311.7	360.9	415.3	421.5
22.5°	1456.3	1372.0	1156.3	879.8	549.2	300.3	248.9	265.6	332.4	400.0	409.6
25°	1437.3	1339.0	1084.4	747.7	365.3	216.0	207.7	228.3	275.3	320.5	327.5
27.5°	1409.7	1297.3	1005.8	604.6	233.1	177.8	180.9	195.4	215.5	234.9	238.9
30°	1375.1	1248.6	920.1	446.0	177.0	159.0	164.2	173.0	181.8	194.1	196.7
32.5°	1339.9	1199.0	831.0	306.5	154.6	148.8	154.1	159.0	166.4	174.7	176.5
35°	1308.3	1152.9	739.3	213.8	144.8	142.3	144.8	147.9	155.4	163.8	164.6
37.5°	1285.4	1115.1	643.6	169.0	139.1	136.6	137.9	139.1	147.9	160.2	161.5
40°	1282.4	1090.1	546.6	151.9	134.8	131.2	130.4	131.2	142.7	156.7	158.0
42.5°	1312.2	1091.4	451.7	144.8	131.2	127.4	123.8	125.5	135.6	146.6	147.5
45°	1382.9	1122.2	369.7	141.8	128.2	125.1	119.9	120.7	125.5	131.2	132.2
47.5°	1507.6	1189.3	306.9	140.0	125.5	123.0	116.3	113.8	114.2	117.2	117.2
50°	1706.9	1301.7	268.7	138.3	123.4	118.6	111.1	105.8	104.4	106.3	106.7
52.5°	2004.2	1494.4	250.2	134.8	119.4	112.8	104.4	99.2	97.0	98.8	98.8
55°	2405.9	1802.2	241.4	129.9	114.6	105.8	98.3	93.9	92.2	93.5	93.5
57.5°	2863.8	2202.1	256.4	123.4	108.4	98.3	93.1	90.0	88.7	90.0	90.4
60°	3407.7	2725.4	359.2	115.0	101.9	91.8	88.7	87.0	86.0	87.4	87.4
62.5°	4130.8	3421.8	555.8	108.4	94.8	85.6	84.7	83.9	83.0	84.3	84.3
65°	4911.4	4055.3	572.0	104.4	88.7	80.3	80.8	80.8	79.9	81.2	81.2
67.5°	5159.9	4000.4	319.6	99.6	81.2	75.1	76.8	76.8	76.4	77.7	77.2
68°	5107.2	3913.4	278.3	98.3	79.9	73.8	75.5	75.9	75.5	76.8	76.4
70°	4714.7	3435.8	183.1	90.8	74.2	69.4	72.0	72.4	72.0	73.8	73.3
72.5°	3891.9	2577.0	135.2	79.5	67.2	63.6	66.3	66.7	67.2	68.9	68.5
75°	2471.7	1423.3	106.7	67.6	60.1	57.1	59.7	61.1	61.9	64.5	63.2
77.5°	677.0	432.0	86.4	57.5	51.8	50.5	52.3	54.0	54.8	58.0	55.8
80°	237.1	191.0	72.0	48.7	43.1	42.6	44.3	46.1	47.0	49.6	47.0
82.5°	144.0	124.7	57.5	38.2	33.8	33.3	35.6	37.3	38.2	38.2	36.4
85°	75.1	65.9	42.1	26.8	23.2	22.0	25.9	28.1	28.5	28.1	26.8
87.5°	42.1	37.3	22.4	12.7	10.5	10.9	13.6	16.7	18.0	17.6	16.7
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)