

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: P197348

Luminaire Tested: **NAV-AF-02-D-UNV-T4W-8030-1200**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P197348  
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-8030-1200  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 80 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10774 lumens  
Efficiency: N/A  
Efficacy: 83.5 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

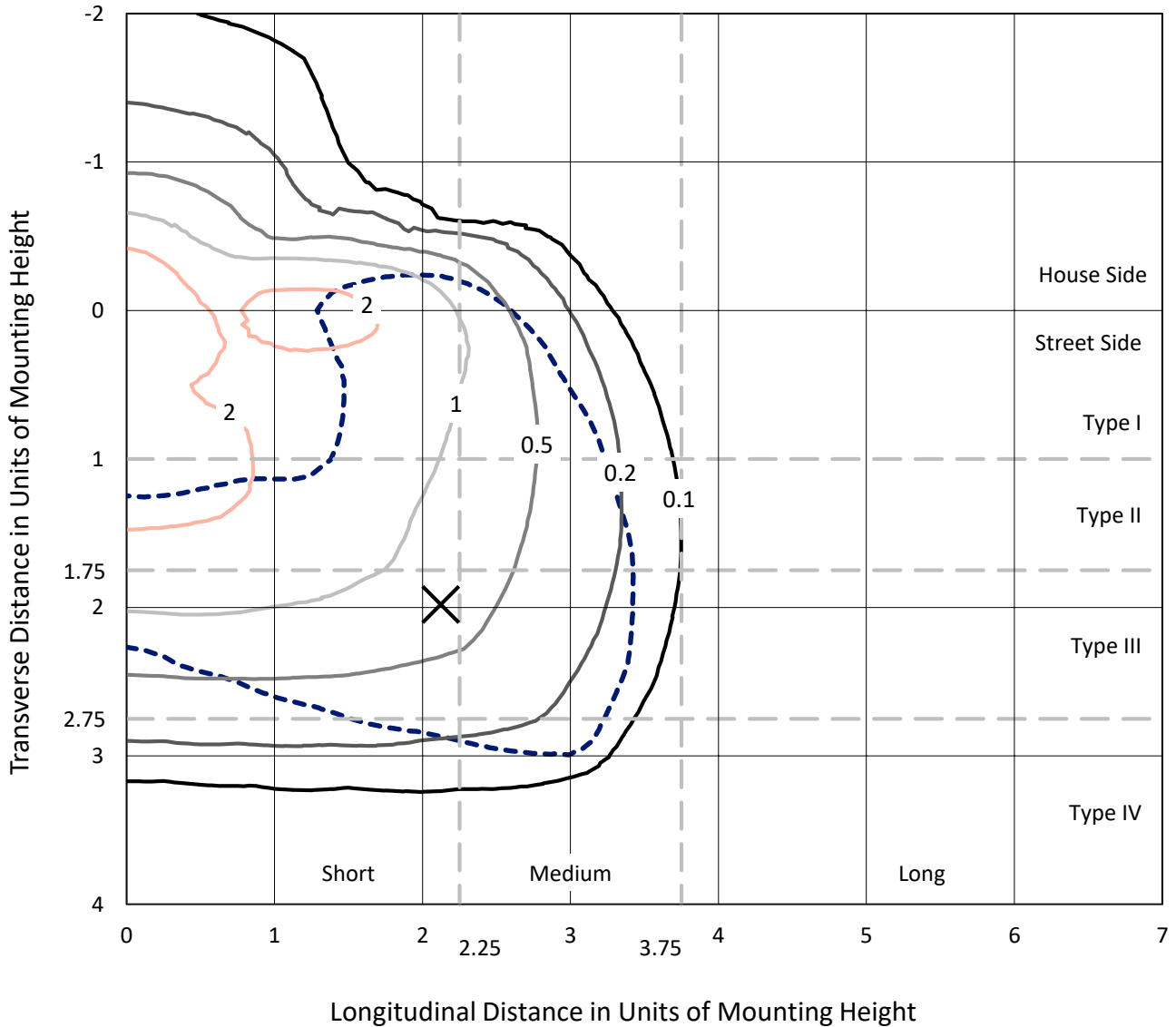
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

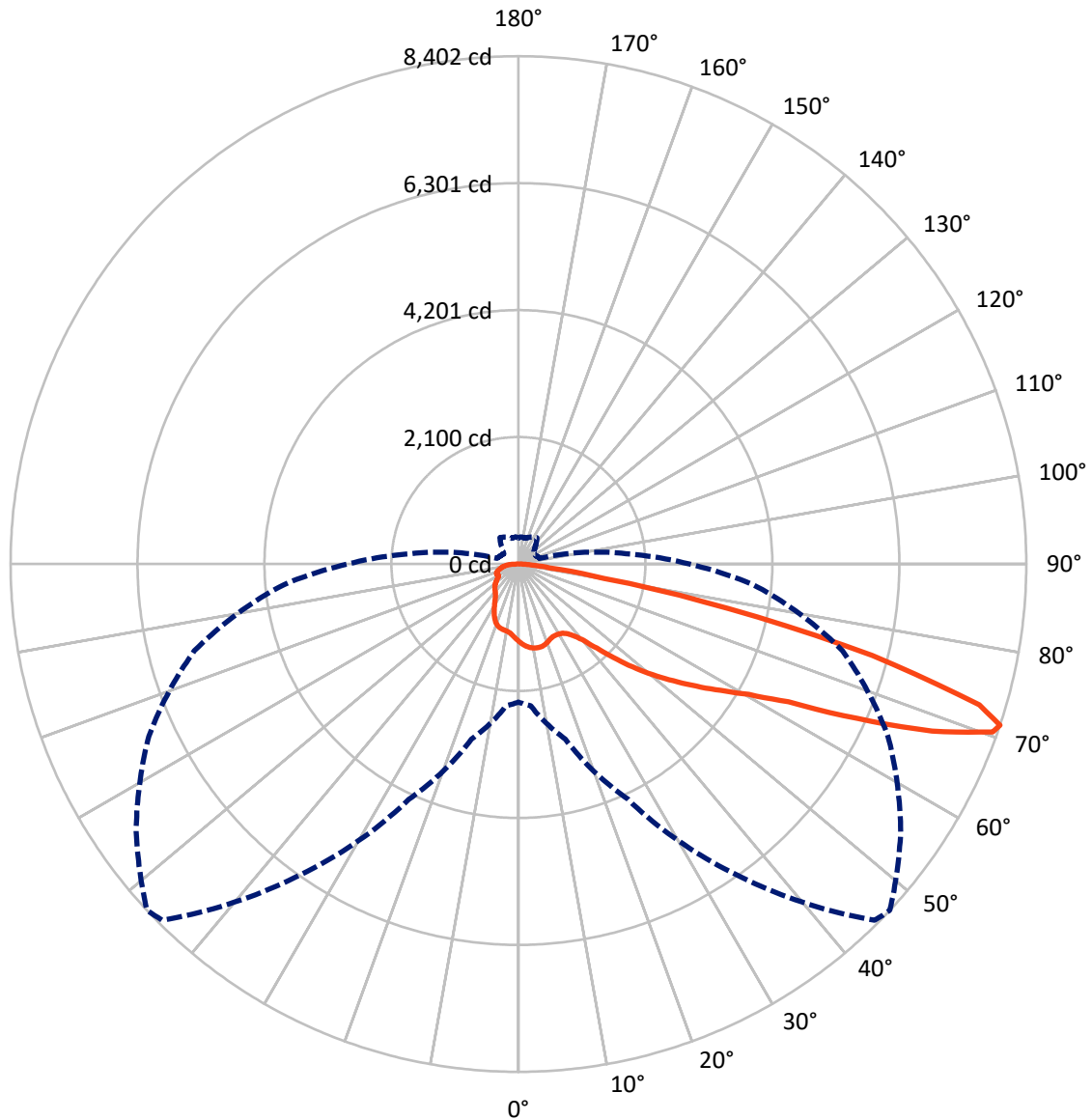
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3.7 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	2309.0	0.0	2309.0
	% Fixture	21.4	0.0	21.4
<b>Street Side</b>	Lumens	8465.0	0.0	8465.0
	% Fixture	78.6	0.0	78.6
<b>Total</b>	Lumens	10774.0	0.0	10774.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	122.3	1.1
10°-20°	357.9	3.3
20°-30°	531.8	4.9
30°-40°	763.6	7.1
40°-50°	1353.9	12.6
50°-60°	2316.7	21.5
60°-70°	3288.9	30.5
70°-80°	1801.3	16.7
80°-90°	237.8	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°	10774.0	100.0
0°-180°	10774.0	100.0



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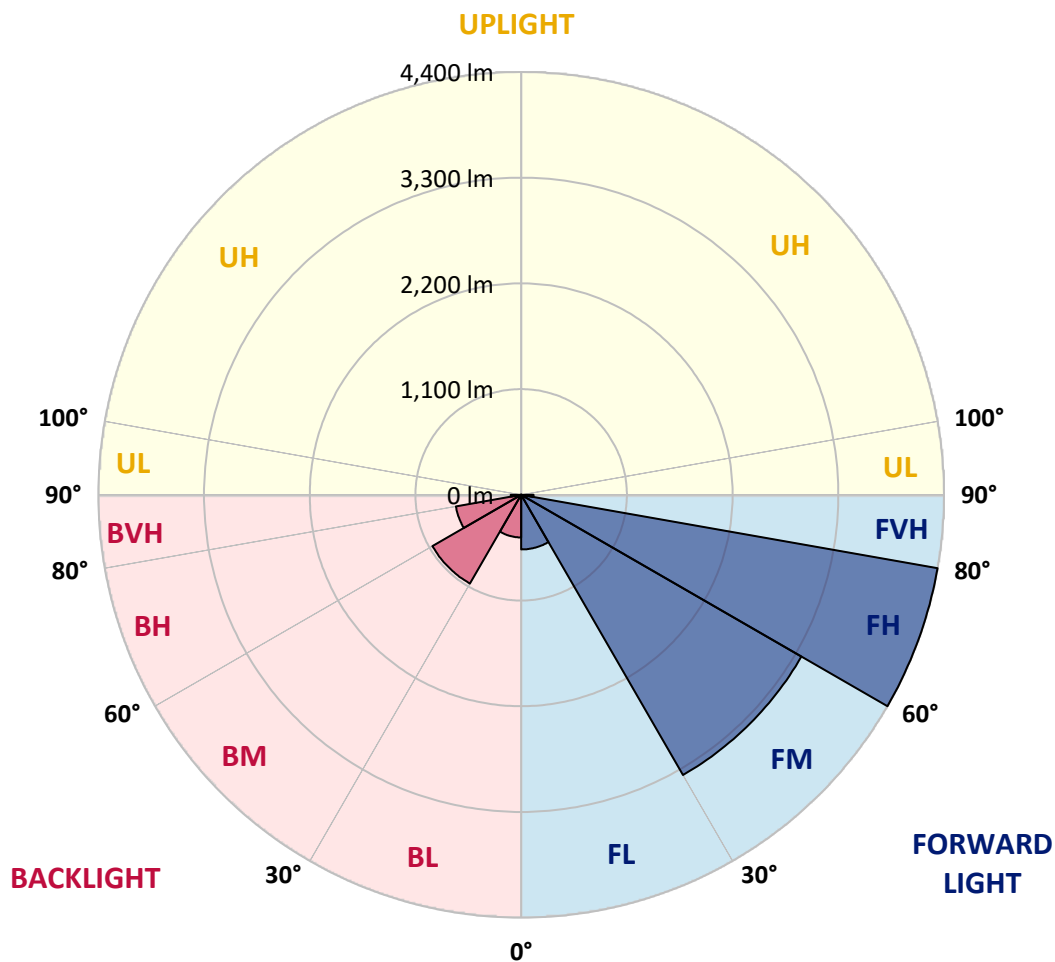
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	568.6	5.3			
FM	(30°-60°)	3367.2	31.3			
FH	(60°-80°)	4400.2	40.8			G2/5000
FVH	(80°-90°)	129.0	1.2			G2/225
BL	(0°-30°)	443.4	4.1	B1/500		
BM	(30°-60°)	1066.9	9.9	B2/2500		
BH	(60°-80°)	689.9	6.4	B2/1000		G2/1000
BVH	(80°-90°)	108.8	1.0			G2/225
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°	1281.2	1281.2	1281.2	1281.2	1281.2	1281.2	1281.2	1281.2	1281.2	1281.2	1281.2
2.5°	1359.4	1356.6	1358.0	1353.1	1341.3	1328.7	1328.7	1315.4	1301.5	1287.5	1272.1
5°	1443.9	1439.7	1436.2	1420.9	1397.8	1372.0	1367.8	1341.3	1312.6	1284.0	1256.1
7.5°	1514.4	1510.2	1499.7	1471.8	1438.3	1399.9	1395.0	1360.1	1322.4	1282.6	1243.5
10°	1564.7	1561.9	1541.6	1506.0	1466.9	1421.5	1413.2	1377.6	1332.9	1283.3	1233.7
12.5°	1592.6	1588.4	1564.0	1522.1	1476.0	1429.9	1421.5	1387.3	1336.4	1281.9	1224.0
15°	1581.4	1579.3	1556.3	1513.7	1467.6	1427.8	1420.9	1385.9	1334.3	1277.0	1214.9
17.5°	1534.0	1538.8	1520.7	1478.8	1441.1	1413.2	1405.5	1372.7	1323.8	1265.2	1200.9
20°	1468.3	1473.9	1464.8	1422.2	1400.6	1382.4	1378.3	1351.7	1306.3	1247.7	1184.2
22.5°	1398.5	1403.4	1404.1	1364.3	1357.3	1350.3	1346.8	1328.0	1291.0	1237.2	1173.0
25°	1350.3	1355.9	1357.3	1322.4	1326.6	1328.7	1328.0	1314.7	1288.2	1237.2	1174.4
27.5°	1337.8	1340.6	1339.2	1307.0	1314.7	1326.6	1327.3	1324.5	1299.4	1251.2	1193.9
30°	1381.1	1382.4	1365.0	1316.8	1324.5	1339.9	1340.6	1339.2	1323.1	1287.5	1237.9
32.5°	1568.2	1566.8	1506.7	1382.4	1355.9	1361.5	1363.6	1376.2	1377.6	1347.5	1301.5
35°	1853.0	1852.3	1782.5	1570.3	1445.3	1416.0	1418.8	1438.3	1455.8	1435.5	1409.0
37.5°	2166.5	2168.6	2126.0	1838.4	1638.0	1515.8	1513.0	1527.7	1559.1	1566.1	1569.6
40°	2514.2	2524.7	2522.6	2146.3	1908.2	1686.2	1658.2	1641.5	1702.2	1740.6	1790.2
42.5°	2911.5	2908.7	2910.1	2484.2	2216.8	1954.3	1902.6	1824.4	1894.9	1961.3	2070.2
45°	3252.9	3264.1	3272.5	2843.8	2562.4	2260.8	2208.4	2066.0	2129.5	2228.7	2394.8
47.5°	3596.5	3576.9	3592.3	3243.9	2947.1	2610.6	2542.9	2350.9	2410.2	2549.9	2802.6
50°	3996.5	3987.5	3917.6	3766.1	3412.1	2965.3	2876.6	2648.3	2734.9	2921.3	3306.0
52.5°	4355.4	4306.5	4252.1	4176.7	3869.5	3324.2	3211.8	2957.6	3116.8	3347.9	3930.9
55°	4486.7	4453.9	4519.5	4617.2	4353.3	3690.0	3564.3	3318.6	3547.6	3835.9	4666.1
57.5°	4626.3	4637.5	4785.5	4983.1	4811.3	4080.3	3944.2	3745.9	4020.3	4381.9	5487.9
60°	4696.1	4740.8	5036.2	5406.9	5247.0	4508.3	4377.8	4236.7	4544.6	4985.2	6307.6
62.5°	4708.0	4768.1	5186.3	5555.6	5846.8	5163.9	5013.1	4860.2	5199.5	5652.0	6901.1
65°	4490.2	4582.3	5173.0	5738.6	6393.5	6259.4	6163.8	5897.1	6076.5	6239.2	7002.3
67.5°	3849.9	3950.5	4661.2	5663.2	6832.0	7396.1	7377.9	6984.2	6753.8	6466.1	6251.7
70°	2825.6	2906.6	3589.5	4841.4	6640.6	8288.4	8320.5	7688.7	6943.0	5984.3	4648.7
71°	2285.2	2355.1	2998.8	4298.2	6267.8	8334.5	8401.5	7720.1	6746.1	5549.3	3891.8
72.5°	1422.2	1461.3	1991.3	3243.9	5397.1	7859.7	7972.8	7317.9	6126.1	4690.6	2750.9
75°	536.9	552.3	738.7	1430.6	3221.5	5904.7	6041.6	5530.5	4303.7	2677.6	1151.3
77.5°	288.4	296.0	366.6	594.9	1291.0	3384.9	3560.9	3154.5	2064.6	937.0	470.6
80°	193.4	198.3	253.4	352.6	593.5	1288.9	1435.5	1266.5	772.9	534.8	335.1
82.5°	125.0	127.8	172.5	231.8	383.3	453.1	517.4	540.4	482.5	383.3	202.5
85°	82.4	84.5	113.8	148.0	237.4	223.4	229.0	299.5	328.9	252.8	103.3
87.5°	47.5	48.9	68.4	76.1	106.8	83.8	90.8	142.4	195.5	164.8	59.3
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°	1281.2	1281.2	1281.2	1281.2	1281.2	1281.2	1281.2	1281.2	1281.2	1281.2	1281.2
2.5°	1265.2	1259.6	1247.0	1239.3	1235.8	1234.4	1233.0	1235.8	1235.8	1234.4	1231.6
5°	1242.1	1231.6	1210.7	1196.0	1188.3	1186.3	1189.0	1192.5	1194.6	1194.6	1192.5
7.5°	1225.4	1210.0	1182.1	1161.8	1149.9	1146.5	1154.1	1166.7	1175.1	1179.3	1180.0
10°	1211.4	1190.4	1159.7	1138.8	1129.0	1127.6	1137.4	1153.4	1170.9	1178.6	1180.0
12.5°	1198.8	1175.1	1141.6	1122.0	1115.0	1118.5	1131.8	1146.5	1166.7	1177.9	1178.6
15°	1187.0	1162.5	1126.9	1106.7	1105.3	1110.8	1123.4	1135.3	1150.6	1164.6	1164.6
17.5°	1173.0	1146.5	1109.5	1090.6	1090.6	1095.5	1103.9	1110.1	1119.9	1133.2	1132.5
20°	1156.2	1129.0	1091.3	1071.7	1067.6	1064.8	1064.8	1066.2	1074.5	1086.4	1088.5
22.5°	1143.7	1115.7	1075.9	1052.2	1033.3	1015.2	1007.5	1004.7	1012.4	1023.6	1026.4
25°	1143.7	1115.7	1071.0	1031.3	985.2	950.3	935.6	931.4	939.1	949.6	953.8
27.5°	1162.5	1134.6	1082.2	1012.4	927.9	872.1	854.6	851.1	858.1	866.5	870.7
30°	1206.5	1179.3	1114.3	990.8	864.4	791.1	771.5	768.0	771.5	775.0	779.9
32.5°	1279.8	1256.8	1166.7	971.2	800.1	717.8	694.0	688.4	689.8	690.5	694.7
35°	1399.2	1388.7	1236.5	948.2	739.4	657.7	633.3	622.1	621.4	624.9	629.8
37.5°	1582.1	1588.4	1326.6	914.7	689.1	615.1	590.7	579.5	573.9	580.9	586.5
40°	1840.5	1855.1	1430.6	869.3	647.9	590.0	564.2	553.7	546.0	543.9	546.7
42.5°	2176.3	2172.1	1536.8	811.3	603.3	573.2	546.0	534.8	522.3	506.2	502.7
45°	2574.3	2514.2	1625.4	740.1	552.3	557.2	529.2	513.9	494.3	470.6	467.8
47.5°	3044.2	2878.7	1679.9	664.0	504.8	536.2	510.4	486.6	458.0	442.7	440.6
50°	3610.4	3305.3	1718.3	586.5	462.2	509.7	483.9	452.4	424.5	420.3	419.6
52.5°	4280.7	3808.7	1765.8	516.7	428.7	475.5	457.3	425.2	402.9	405.0	405.0
55°	4993.6	4329.6	1767.2	461.5	399.4	435.7	437.8	411.9	394.5	401.5	403.6
57.5°	5643.6	4784.8	1628.2	422.4	371.4	404.3	431.5	416.8	403.6	428.0	430.1
60°	6210.5	5135.3	1329.4	390.3	348.4	392.4	445.5	446.9	444.1	510.4	515.3
62.5°	6417.9	5138.8	944.0	363.1	335.8	399.4	474.8	476.9	476.9	538.3	547.4
65°	6127.5	4710.8	628.4	347.0	327.5	414.7	498.5	489.4	467.8	510.4	500.6
67.5°	5103.9	3667.0	459.4	336.5	315.6	415.4	519.5	496.4	459.4	495.7	479.0
70°	3507.8	2333.4	384.7	326.8	301.6	397.3	530.6	494.3	446.9	462.2	439.9
71°	2823.5	1862.1	365.2	323.3	296.0	386.8	532.0	491.5	440.6	450.3	430.1
72.5°	1860.0	1147.2	341.4	315.6	287.7	368.7	528.5	485.3	432.2	432.9	419.6
75°	733.8	475.5	307.2	298.1	263.9	339.3	513.2	472.0	416.1	402.2	396.6
77.5°	370.7	310.7	270.2	273.7	236.0	309.3	491.5	450.3	393.8	374.9	370.7
80°	270.9	236.0	231.1	237.4	204.6	280.0	464.3	421.0	365.2	384.7	376.3
82.5°	164.8	143.8	180.8	196.2	171.1	250.0	432.2	386.8	328.9	303.0	293.2
85°	78.2	84.5	130.6	144.5	126.4	199.7	395.2	349.1	287.0	247.9	252.1
87.5°	38.4	46.8	74.7	86.6	83.1	146.6	298.1	270.9	226.2	186.4	182.2
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)