

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: P270385

Luminaire Tested: **NAV-AF-02-D-UNV-T3-7027**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270385
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (p24135)
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-T3-7027
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 2700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10586.3 lumens
Efficiency: N/A
Efficacy: 93.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B2 - U0 - G2

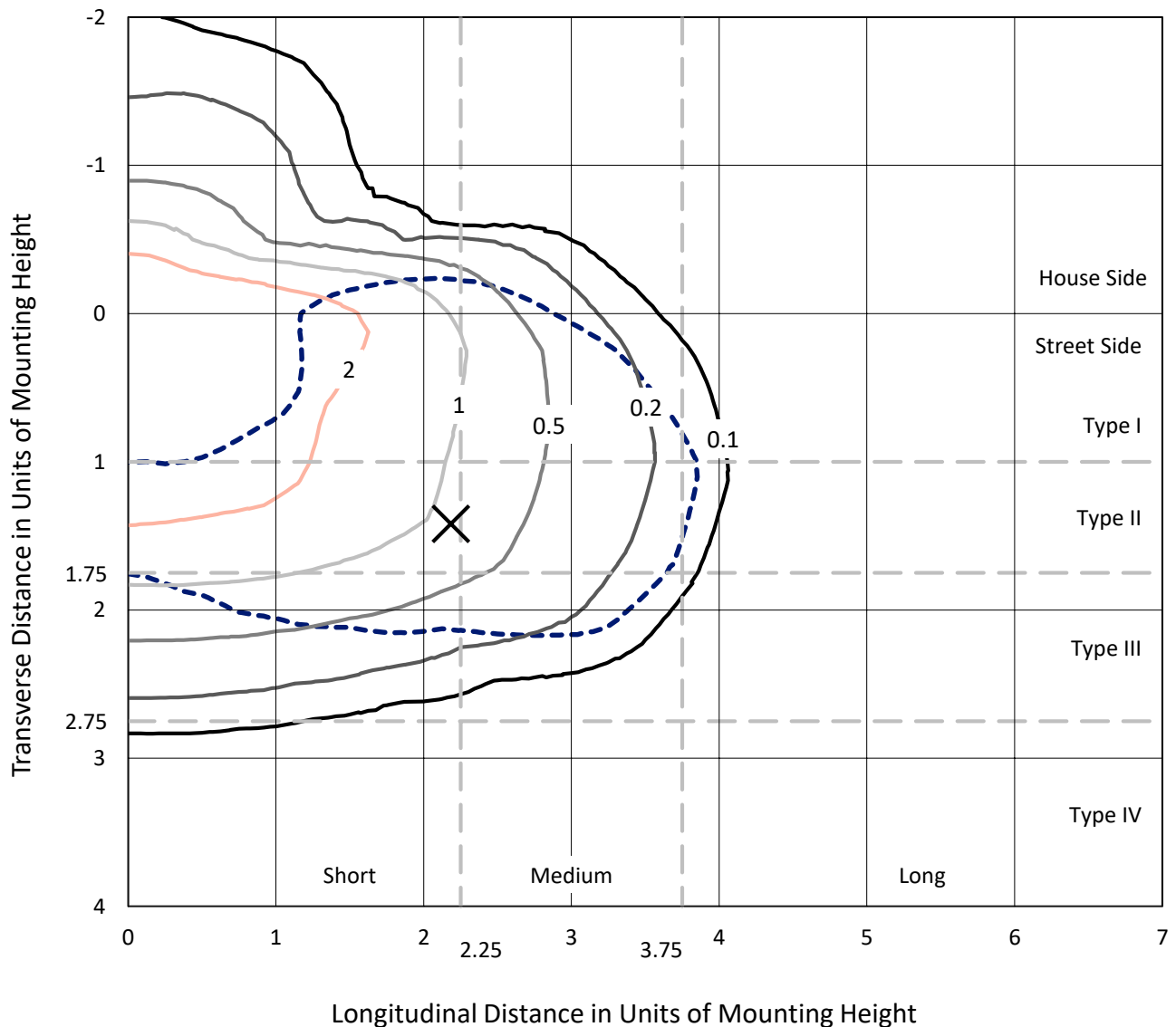
Input Watts (W): 113
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

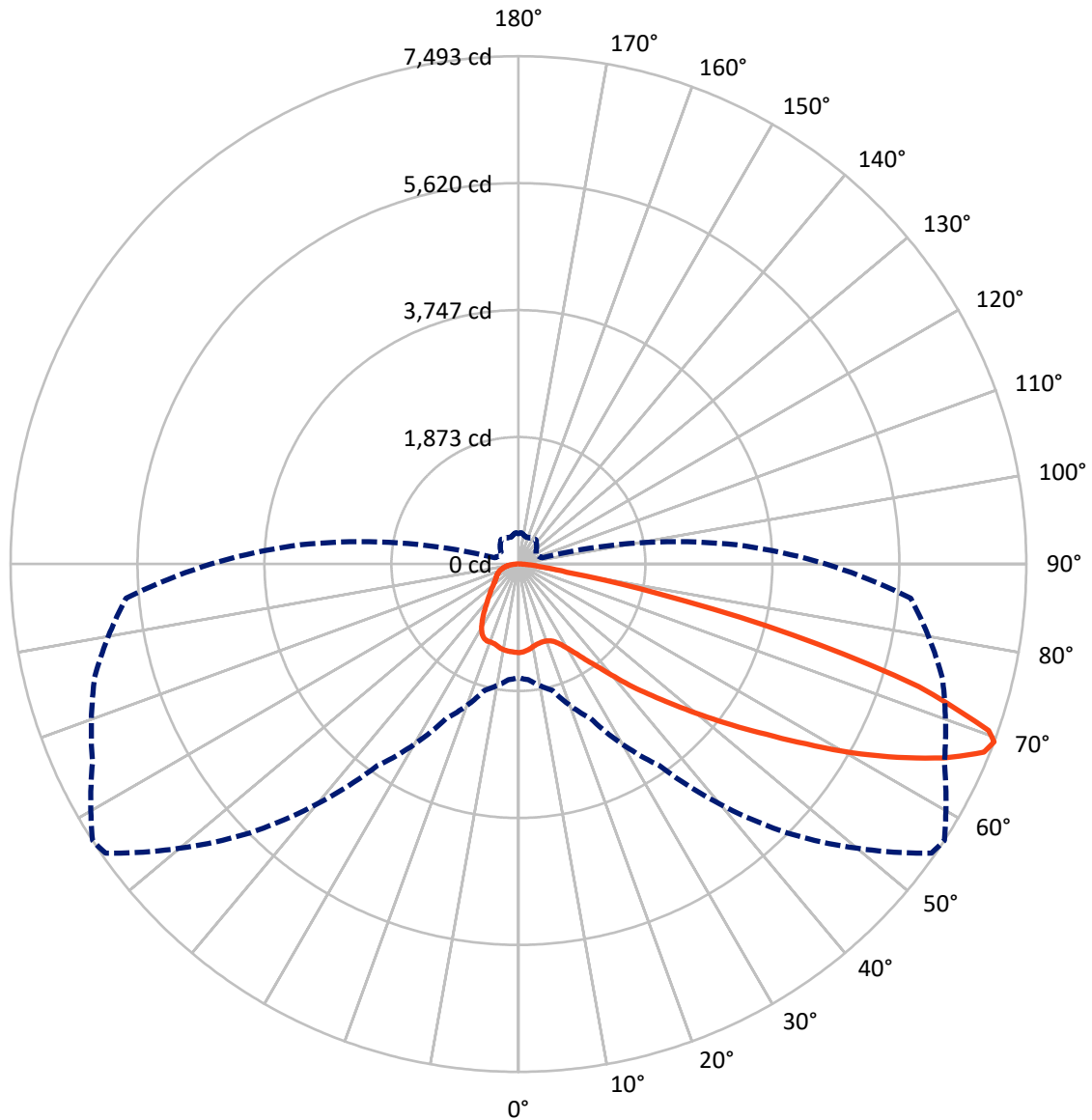
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3.3 fc
 Type III - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2336.0	0.0	2336.0
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	8250.3	0.0	8250.3
	% Fixture	77.9	0.0	77.9
Total	Lumens	10586.3	0.0	10586.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.5	1.2
10°-20°	348.2	3.3
20°-30°	579.2	5.5
30°-40°	945.8	8.9
40°-50°	1596.3	15.1
50°-60°	2483.1	23.5
60°-70°	2957.9	27.9
70°-80°	1378.0	13.0
80°-90°	175.3	1.7
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°	10586.3	100.0
0°-180°	10586.3	100.0



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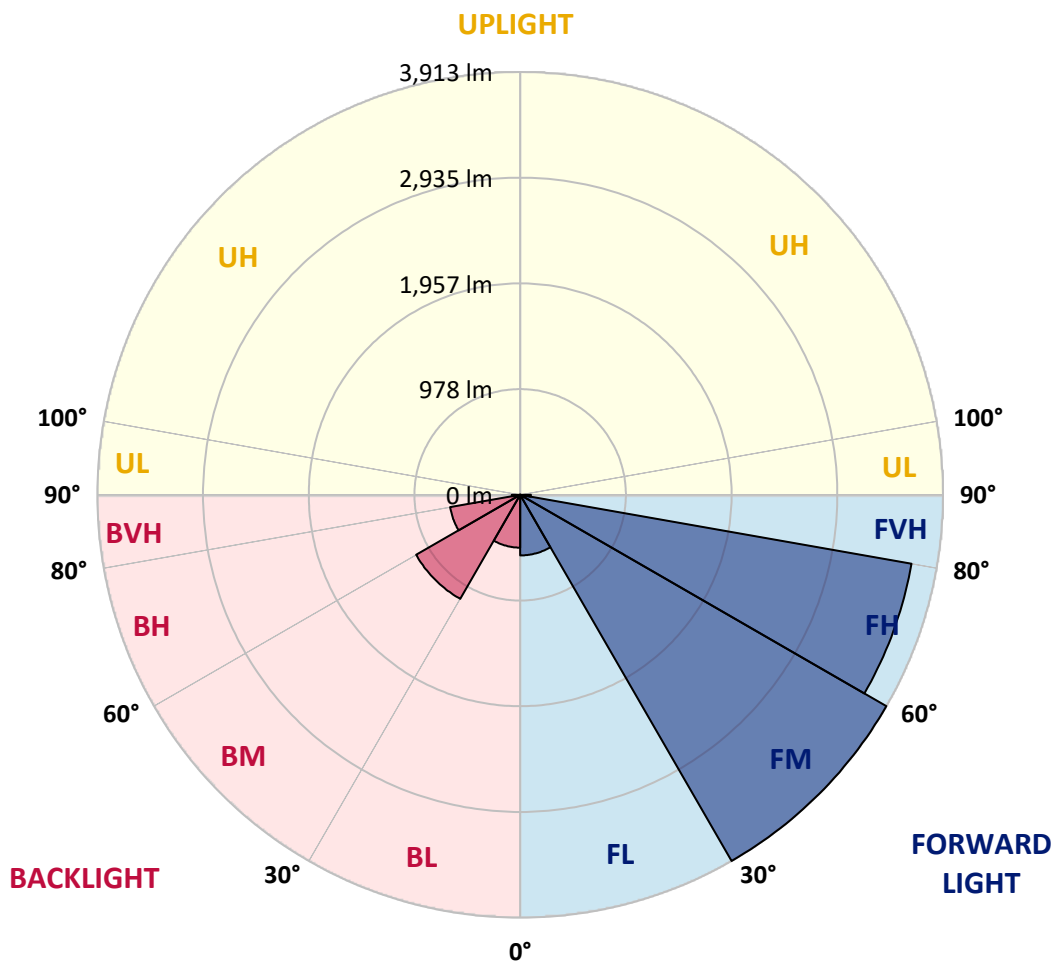
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	560.6	5.3			
FM	(30°-60°)	3913.4	37.0			
FH	(60°-80°)	3677.7	34.7			G2/5000
FVH	(80°-90°)	98.5	0.9			G1/100
BL	(0°-30°)	489.2	4.6	B1/500		
BM	(30°-60°)	1111.8	10.5	B2/2500		
BH	(60°-80°)	658.3	6.2	B2/1000		G2/1000
BVH	(80°-90°)	76.7	0.7			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 III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	1308.0	1308.0	1308.0	1308.0	1308.0	1308.0	1308.0	1308.0	1308.0	1308.0	1308.0
2.5°	1300.6	1300.6	1304.0	1304.0	1304.0	1302.6	1298.5	1299.8	1297.2	1295.1	1291.8
5°	1274.2	1275.6	1279.5	1281.0	1283.0	1283.7	1283.7	1283.0	1283.7	1283.7	1281.6
7.5°	1237.5	1238.9	1243.7	1246.4	1252.4	1257.8	1260.6	1260.6	1263.9	1266.7	1267.4
10°	1215.1	1215.1	1217.9	1217.9	1222.7	1225.4	1234.1	1233.6	1243.0	1251.8	1255.8
12.5°	1212.5	1212.5	1211.2	1206.3	1203.6	1203.0	1211.9	1213.2	1227.4	1243.0	1250.4
15°	1221.2	1221.2	1217.3	1207.7	1197.6	1192.8	1201.7	1204.4	1219.9	1238.3	1249.7
17.5°	1249.7	1249.1	1240.3	1221.2	1203.6	1196.3	1198.9	1201.7	1215.9	1236.8	1251.1
20°	1312.8	1312.8	1293.7	1259.2	1228.7	1211.2	1207.1	1209.1	1219.3	1238.9	1257.2
22.5°	1423.3	1425.3	1391.5	1334.4	1282.3	1245.1	1228.7	1230.8	1235.4	1254.6	1274.9
25°	1585.9	1580.5	1532.4	1451.8	1370.4	1306.7	1273.4	1275.6	1275.6	1293.1	1314.1
27.5°	1758.1	1759.4	1690.3	1603.6	1496.4	1401.5	1348.6	1348.0	1347.4	1364.3	1386.7
30°	1952.6	1953.3	1873.2	1773.0	1650.2	1528.9	1449.7	1449.0	1442.9	1463.9	1493.1
32.5°	2165.4	2164.6	2071.9	1958.7	1822.4	1684.9	1581.8	1581.1	1576.4	1604.9	1640.1
35°	2401.2	2401.2	2309.1	2169.4	2022.4	1869.3	1749.9	1749.2	1752.0	1790.6	1823.7
37.5°	2685.3	2691.3	2580.1	2410.7	2250.1	2086.8	1947.9	1943.8	1923.5	1988.5	2043.4
40°	2981.4	2998.4	2883.1	2685.3	2511.8	2342.9	2189.8	2187.1	2169.4	2238.5	2327.4
42.5°	3301.9	3340.5	3212.5	3010.5	2821.4	2639.1	2485.3	2477.9	2410.1	2517.8	2656.7
45°	3722.1	3747.2	3561.5	3378.5	3200.3	2992.3	2809.2	2769.2	2701.5	2839.7	3020.0
47.5°	4008.1	3995.9	3880.0	3757.4	3642.8	3443.7	3162.4	3111.5	3028.8	3211.8	3410.3
50°	4185.7	4194.5	4129.5	4123.4	4117.2	3978.4	3560.8	3499.8	3404.2	3621.2	3852.9
52.5°	4303.1	4262.9	4274.4	4412.7	4580.2	4513.8	4011.6	3943.7	3845.5	4062.3	4324.0
55°	4254.2	4201.4	4307.7	4580.2	4973.9	4988.8	4506.3	4436.5	4352.5	4531.4	4890.6
57.5°	4052.3	4078.7	4246.6	4625.6	5243.0	5414.4	5075.0	5003.7	4838.5	5020.0	5428.6
60°	3768.2	3821.7	4078.7	4553.7	5431.4	5745.9	5699.0	5651.6	5367.1	5495.8	5993.9
62.5°	3463.2	3516.1	3831.9	4431.1	5346.7	6039.3	6311.9	6282.7	5950.6	5954.0	6352.5
65°	3012.6	3034.2	3356.8	4096.2	5111.4	6304.3	6925.2	6899.4	6508.3	6345.0	6452.7
67.5°	2275.1	2302.3	2567.3	3233.4	4395.9	6160.7	7415.1	7411.0	6843.7	6490.1	6214.1
69°	1680.1	1713.3	1929.5	2510.4	3634.7	5613.0	7438.1	7493.1	6934.6	6475.2	5811.0
70°	1229.4	1267.4	1467.3	1992.5	3027.5	5008.5	7241.0	7358.8	6900.1	6380.9	5496.5
72.5°	522.5	535.4	633.7	899.4	1535.7	3020.0	5930.9	6178.9	6231.8	5717.4	4294.2
75°	327.3	331.5	370.0	461.5	683.3	1249.1	3840.8	4178.9	4652.7	4435.8	2874.9
77.5°	246.8	250.1	272.5	317.9	424.3	466.3	1781.8	2124.8	2664.8	2609.2	1430.7
80°	189.2	191.1	206.0	231.1	298.9	292.0	578.1	726.5	1112.2	981.4	506.3
82.5°	148.4	149.1	162.0	166.7	208.8	196.5	290.1	323.3	449.3	373.4	247.4
85°	131.5	133.5	146.5	122.0	133.5	118.5	159.3	172.8	238.6	225.0	93.6
87.5°	67.2	70.4	122.7	104.4	67.2	56.2	69.8	75.2	96.8	105.0	45.5
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°	1308.0	1308.0	1308.0	1308.0	1308.0	1308.0	1308.0	1308.0	1308.0	1308.0	1308.0
2.5°	1292.4	1293.1	1295.1	1298.5	1304.0	1310.7	1318.9	1327.1	1331.7	1335.2	1333.9
5°	1281.6	1282.3	1286.4	1292.4	1299.2	1309.4	1322.9	1333.2	1340.6	1345.3	1344.7
7.5°	1268.0	1270.1	1278.2	1284.9	1294.5	1302.6	1313.4	1322.9	1330.4	1335.2	1334.4
10°	1257.8	1260.0	1270.1	1278.8	1287.0	1288.3	1286.4	1283.7	1283.0	1286.4	1284.9
12.5°	1253.1	1257.2	1266.7	1272.8	1269.5	1256.5	1241.5	1235.4	1233.6	1240.3	1241.0
15°	1254.6	1257.8	1266.0	1261.9	1243.7	1222.0	1213.8	1218.6	1222.7	1226.7	1227.4
17.5°	1257.8	1260.0	1261.9	1247.0	1221.2	1207.1	1204.4	1199.5	1187.4	1180.6	1180.0
20°	1263.9	1266.7	1263.2	1239.7	1216.6	1197.6	1165.0	1135.8	1108.1	1093.1	1087.0
22.5°	1284.9	1287.0	1276.9	1253.9	1218.6	1156.8	1091.1	1041.0	998.2	975.3	966.4
25°	1326.3	1329.8	1315.5	1286.4	1194.1	1086.4	993.5	925.9	872.3	844.4	837.0
27.5°	1398.8	1402.3	1386.7	1310.7	1137.3	992.2	879.7	812.5	766.6	742.8	739.5
30°	1507.3	1512.0	1497.8	1310.1	1050.5	872.3	768.6	729.2	702.8	686.6	685.9
32.5°	1657.7	1675.3	1617.0	1287.0	943.4	751.0	684.5	670.9	658.1	647.3	647.3
35°	1848.9	1890.3	1734.9	1238.9	825.5	668.2	637.7	625.0	608.6	597.2	595.8
37.5°	2077.3	2141.6	1819.1	1153.6	723.9	628.3	609.3	588.3	562.5	540.2	534.8
40°	2391.1	2406.0	1860.4	1014.5	647.9	606.5	582.9	556.4	523.9	498.7	496.1
42.5°	2706.2	2657.5	1852.2	865.4	604.5	587.0	555.7	526.5	497.4	476.5	476.5
45°	3064.7	2877.0	1790.6	715.7	565.3	564.6	530.7	503.0	480.6	465.0	461.5
47.5°	3407.7	3074.2	1684.2	605.2	524.6	542.1	514.4	492.0	471.7	456.8	454.2
50°	3823.7	3302.6	1571.0	527.9	485.3	522.5	507.6	496.1	476.5	450.7	448.0
52.5°	4237.2	3569.7	1483.6	469.6	450.7	507.0	511.7	513.0	494.7	444.7	441.2
55°	4681.2	3854.9	1391.5	424.3	422.3	499.5	521.1	519.8	511.0	446.0	440.4
57.5°	5103.5	4141.6	1253.9	392.4	399.8	492.0	523.3	501.6	486.0	452.7	443.9
60°	5453.2	4378.9	1051.8	370.0	380.9	477.1	509.7	477.1	450.7	451.4	443.3
62.5°	5623.2	4445.4	804.5	344.3	365.3	452.7	490.0	458.9	434.4	454.2	449.3
65°	5493.8	4256.2	573.4	320.5	346.3	424.3	478.4	443.3	426.2	467.7	462.2
67.5°	5028.8	3741.1	416.2	299.6	328.1	395.2	456.8	429.0	418.3	477.8	465.6
69°	4534.7	3230.0	360.6	287.4	315.1	379.5	442.5	421.6	412.1	463.5	446.0
70°	4124.1	2836.4	332.7	279.9	304.3	370.7	431.7	416.9	405.9	446.6	425.6
72.5°	2957.0	1833.4	279.9	257.5	275.8	351.1	408.0	399.1	382.9	403.2	389.8
75°	1786.5	957.0	238.0	234.5	246.0	324.0	380.3	369.4	353.2	355.1	348.4
77.5°	820.7	441.8	199.2	207.4	214.9	290.1	346.3	334.1	319.2	313.8	314.4
80°	360.0	258.3	166.7	176.8	181.0	261.0	309.7	296.3	279.9	309.0	286.6
82.5°	194.6	149.7	130.2	136.9	148.4	227.0	269.0	251.4	235.9	274.5	221.6
85°	78.6	76.5	88.2	95.0	103.0	163.3	225.0	206.7	187.7	168.2	164.0
87.5°	33.9	36.7	43.4	46.2	54.8	101.7	151.2	132.2	132.8	113.8	111.7
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)