

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: P195842

Luminaire Tested: **NAV-AF-02-D-UNV-T3R-7050-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195842
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24250)
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-T3R-7050-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8163 lumens
Efficiency: N/A
Efficacy: 123.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type III - Medium - Full Cutoff
BUG Rating: B1 - U0 - G2

Input Watts (W): 66
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

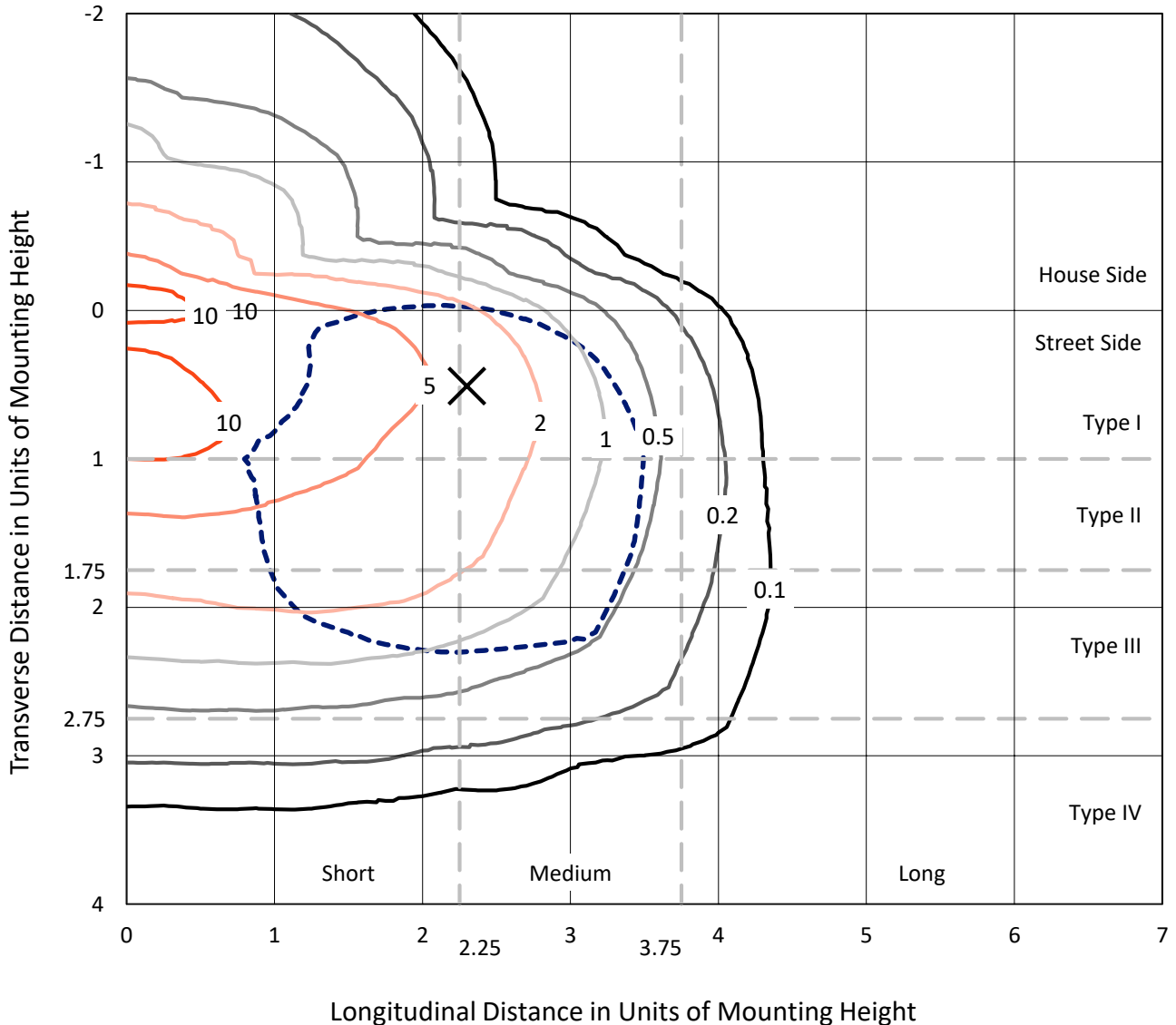


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

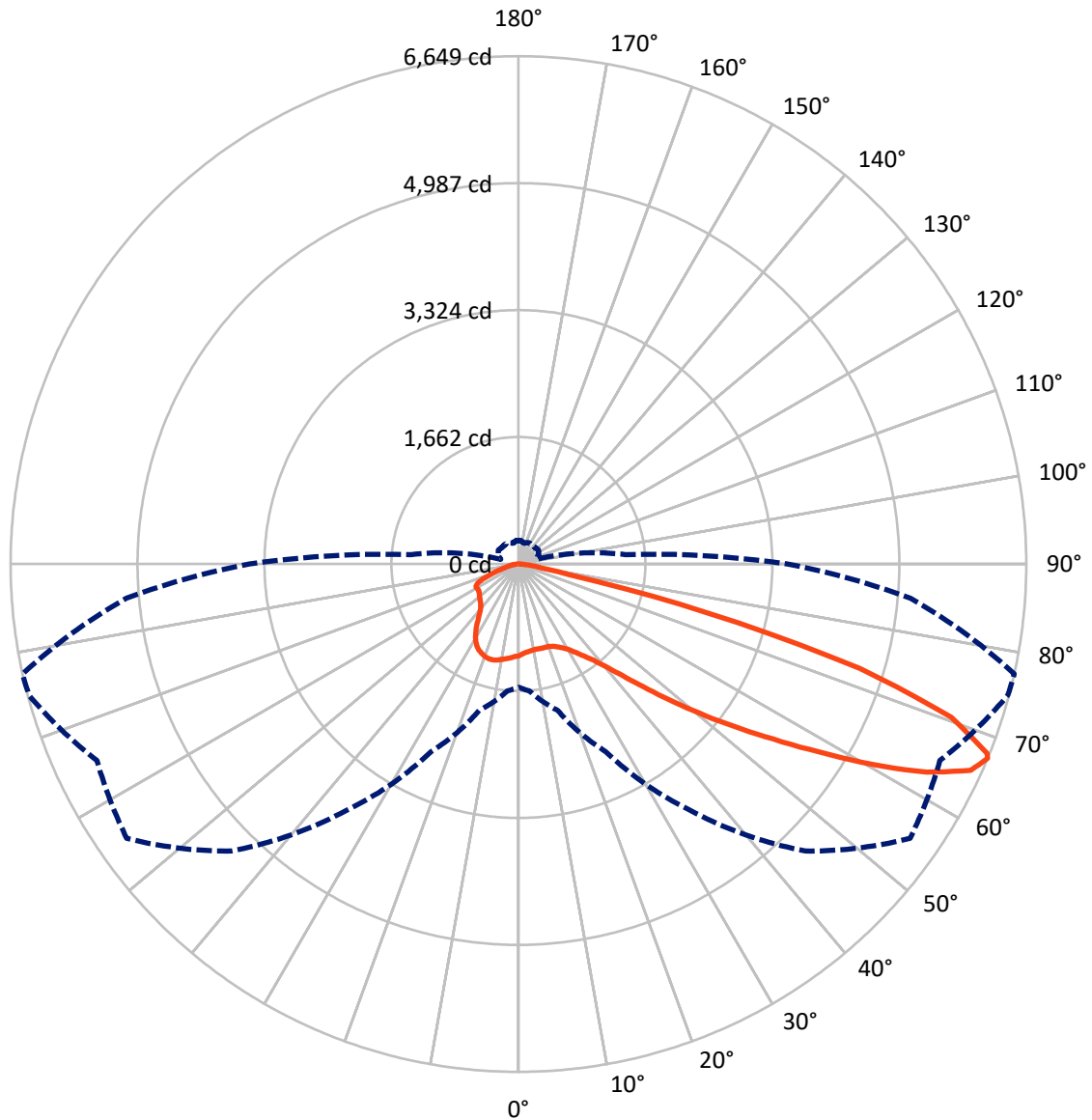


Based on 10 foot mounting height. Maximum calculated value = 14.4 fc
 Type III - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 77.5-Deg Lateral - - - Horizontal Cone Through 67-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1402.8	0.0	1402.8
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	6760.2	0.0	6760.2
	% Fixture	82.8	0.0	82.8
Total	Lumens	8163.0	0.0	8163.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.0	1.3
10°-20°	296.3	3.6
20°-30°	503.5	6.2
30°-40°	805.5	9.9
40°-50°	1240.0	15.2
50°-60°	1720.4	21.1
60°-70°	2294.9	28.1
70°-80°	1092.1	13.4
80°-90°	103.4	1.3
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°	8163.0	100.0
0°-180°	8163.0	100.0



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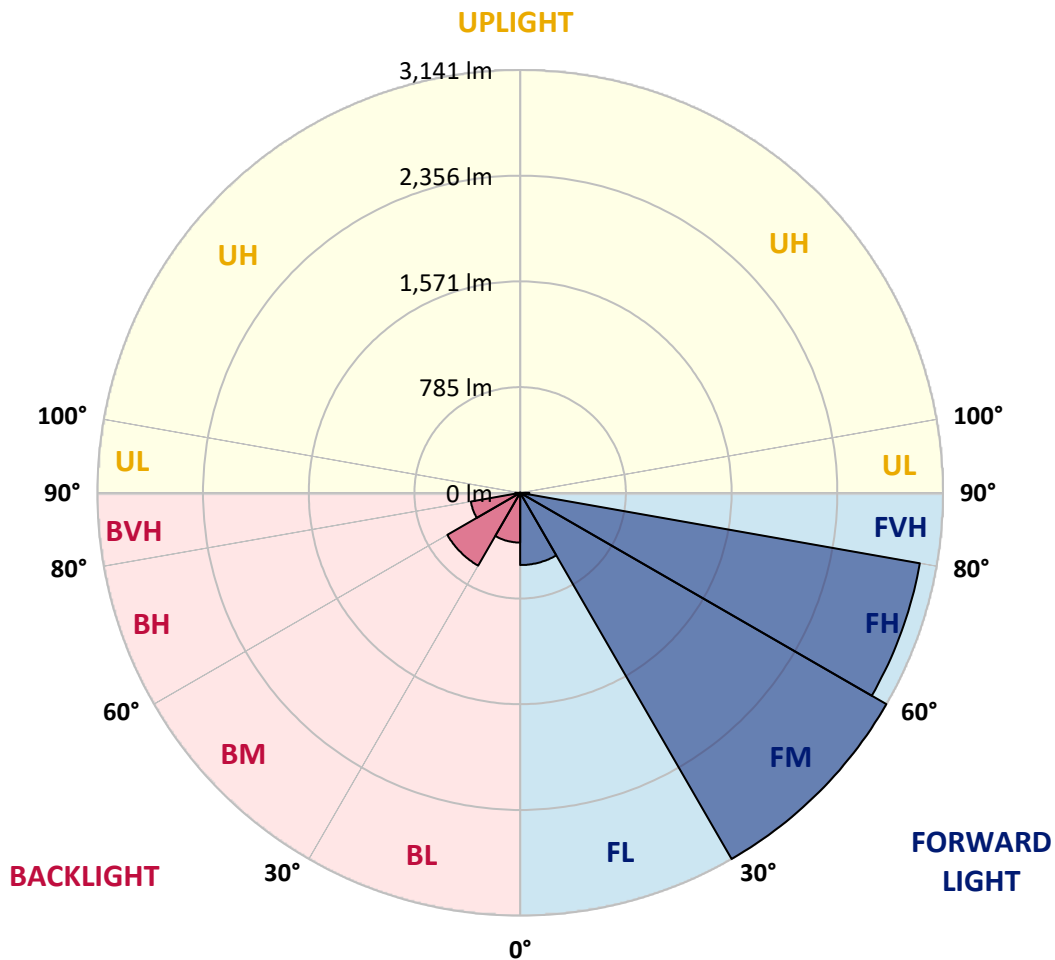
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	536.8	6.6			
FM	(30°-60°)	3141.2	38.5			
FH	(60°-80°)	3015.0	36.9			G2/5000
FVH	(80°-90°)	67.2	0.8			G1/100
BL	(0°-30°)	370.0	4.5	B1/500		
BM	(30°-60°)	624.6	7.7	B1/1000		
BH	(60°-80°)	372.0	4.6	B1/500		G1/500
BVH	(80°-90°)	36.2	0.4			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 III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	77.5°	85°
0°	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4
2.5°	1077.3	1082.3	1082.8	1097.4	1104.0	1120.6	1138.8	1155.0	1169.1	1174.1	1183.2
5°	969.3	969.3	970.8	980.4	999.0	1025.8	1063.6	1105.0	1148.4	1159.0	1185.7
7.5°	912.8	913.8	914.8	924.4	939.0	962.7	1000.6	1057.1	1129.2	1146.9	1193.8
10°	917.8	916.3	911.3	909.2	915.3	930.4	963.2	1021.2	1113.1	1140.3	1208.4
12.5°	997.0	994.0	977.4	953.1	930.9	925.4	948.1	1003.1	1105.5	1140.3	1233.2
15°	1132.8	1134.8	1102.0	1051.5	993.5	954.1	951.1	996.5	1103.0	1143.4	1261.9
17.5°	1309.4	1310.4	1265.0	1191.8	1095.4	1014.2	971.8	996.5	1103.0	1146.4	1289.7
20°	1497.1	1490.0	1438.5	1346.7	1221.6	1097.4	1009.6	1002.6	1106.0	1150.9	1315.9
22.5°	1658.0	1651.5	1597.5	1501.1	1357.8	1195.8	1060.6	1022.8	1122.7	1169.6	1352.7
25°	1798.8	1802.8	1750.4	1641.9	1493.5	1306.8	1136.8	1069.2	1157.5	1203.4	1398.2
27.5°	1969.8	1962.3	1901.7	1798.3	1633.3	1421.9	1232.2	1127.7	1198.9	1244.3	1453.7
30°	2167.6	2164.1	2082.4	1975.9	1787.2	1550.5	1326.5	1190.8	1252.8	1300.3	1523.3
32.5°	2407.8	2407.3	2319.5	2188.8	1960.3	1695.9	1438.0	1277.1	1331.6	1379.5	1615.6
35°	2679.8	2679.3	2588.4	2415.9	2159.6	1856.8	1569.2	1382.0	1428.9	1479.4	1725.6
37.5°	2868.5	2865.4	2818.0	2650.5	2380.1	2044.0	1733.2	1523.3	1539.4	1596.0	1858.3
40°	2904.8	2923.0	2963.8	2864.9	2620.7	2251.9	1897.7	1675.2	1690.3	1763.0	2025.3
42.5°	2865.4	2889.2	3024.9	3052.6	2861.4	2503.7	2103.5	1885.6	1904.7	1995.1	2221.6
45°	2831.1	2851.8	3021.9	3156.6	3099.1	2778.2	2360.4	2142.4	2178.7	2290.7	2445.6
47.5°	2772.6	2791.8	2962.3	3175.3	3234.8	3042.6	2669.7	2451.2	2513.8	2649.5	2701.0
50°	2769.6	2778.2	2881.1	3112.7	3281.7	3243.4	3012.3	2812.5	2908.3	3064.8	2983.5
52.5°	2692.9	2752.9	2846.3	3012.8	3282.7	3360.4	3349.8	3208.6	3356.4	3529.5	3293.3
55°	2223.6	2292.8	2730.2	2963.8	3276.7	3460.8	3658.1	3629.9	3861.0	4043.1	3640.5
57.5°	2076.3	2105.6	2395.2	2978.5	3327.1	3626.8	3966.4	4082.5	4438.2	4637.0	4056.7
60°	2035.9	2066.7	2328.1	2985.5	3463.9	3929.1	4384.7	4593.6	5116.8	5327.7	4529.5
62.5°	1991.0	2030.9	2333.1	2992.1	3704.0	4376.1	4939.7	5148.1	5813.6	6001.8	4972.5
65°	1859.8	1912.8	2239.8	2950.7	3966.9	4937.2	5673.4	5726.4	6389.4	6508.9	5240.0
67°	1611.1	1669.1	1983.5	2711.6	3942.7	5315.1	6260.2	6088.1	6634.1	6648.7	5153.2
67.5°	1532.4	1592.4	1896.7	2612.2	3873.6	5364.6	6364.1	6138.1	6632.1	6615.9	5072.4
70°	1031.8	1099.5	1343.2	1917.9	3107.1	4992.7	6338.9	5984.2	6197.1	6011.9	4358.0
72.5°	512.1	514.2	670.1	1050.5	1882.5	3580.9	5287.9	5119.4	5023.5	4673.8	3198.0
75°	246.7	251.3	316.4	464.2	793.7	1848.7	3606.2	3454.3	2941.1	2546.6	1600.5
77.5°	188.2	192.7	245.7	302.2	331.0	603.0	1786.2	1443.6	852.2	680.7	451.1
80°	145.3	153.9	207.4	232.1	219.0	241.7	561.6	442.0	331.5	304.3	223.5
82.5°	113.5	118.6	176.1	176.1	151.4	162.0	261.4	255.3	205.9	185.7	120.1
85°	80.2	90.3	141.8	131.2	99.4	100.4	156.4	149.9	106.0	85.3	46.9
87.5°	35.8	45.9	100.9	85.8	53.0	40.9	64.1	55.0	41.9	32.3	21.7
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°	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4
2.5°	1193.3	1201.4	1214.0	1221.6	1231.7	1235.7	1239.7	1246.8	1252.3	1250.8	1248.3
5°	1204.4	1218.0	1233.7	1238.7	1238.7	1233.7	1230.6	1231.1	1229.6	1228.6	1225.6
7.5°	1220.6	1239.2	1250.3	1245.3	1229.6	1210.0	1191.3	1180.2	1169.6	1163.0	1165.1
10°	1243.3	1263.9	1264.5	1242.2	1204.9	1162.0	1125.2	1101.5	1078.8	1068.7	1071.7
12.5°	1276.1	1296.7	1279.1	1231.1	1165.6	1098.4	1030.8	981.9	938.0	927.4	924.4
15°	1311.4	1327.5	1288.2	1207.4	1109.0	998.5	885.0	811.9	762.9	754.3	751.3
17.5°	1342.2	1351.2	1283.6	1165.1	1019.7	845.7	713.5	664.0	653.9	659.0	659.0
20°	1369.4	1366.4	1263.9	1099.5	879.0	676.1	599.4	598.9	612.5	625.2	626.2
22.5°	1403.7	1380.0	1232.7	1002.1	710.9	564.1	551.0	564.1	579.2	593.4	594.9
25°	1444.6	1395.1	1190.8	863.3	571.7	512.1	517.7	528.8	538.4	549.5	550.0
27.5°	1485.5	1406.7	1131.7	700.3	496.0	478.8	484.9	489.4	492.0	499.0	499.0
30°	1532.9	1415.8	1046.5	561.1	461.2	449.6	446.0	444.0	446.0	455.6	456.1
32.5°	1592.4	1432.0	929.9	481.4	445.0	428.9	410.7	400.6	407.7	424.8	427.9
35°	1660.0	1451.1	790.2	449.6	439.5	418.8	385.5	369.8	372.4	388.0	390.5
37.5°	1744.8	1475.9	652.4	442.0	445.0	417.8	373.9	351.7	340.6	341.1	340.6
40°	1853.3	1500.6	543.4	444.0	457.1	420.3	368.3	333.5	310.3	311.3	313.3
42.5°	1966.8	1516.7	474.3	450.1	471.8	423.8	366.3	315.9	295.7	312.8	328.5
45°	2099.5	1512.2	438.5	455.6	482.9	425.4	358.7	313.8	297.2	348.7	377.9
47.5°	2251.9	1492.5	418.3	458.1	485.9	424.8	353.2	320.4	309.8	399.1	432.4
50°	2417.4	1461.7	402.1	454.1	484.4	422.8	359.3	328.5	314.9	410.2	435.9
52.5°	2598.5	1433.5	385.5	445.0	476.8	416.8	366.8	324.9	300.7	377.9	397.6
55°	2813.0	1426.9	366.8	429.4	464.2	410.2	362.8	313.8	285.1	335.0	347.1
57.5°	3058.2	1467.8	342.6	410.2	447.0	397.1	353.2	307.8	279.5	304.8	311.3
60°	3369.5	1558.1	316.9	390.0	425.9	377.4	344.6	309.3	281.0	300.2	301.7
62.5°	3612.7	1639.3	293.7	365.3	397.6	353.7	335.5	310.8	285.6	306.3	303.8
65°	3701.0	1599.5	264.9	328.5	357.7	327.5	322.9	311.8	285.6	309.8	304.3
67°	3519.9	1409.3	237.7	291.6	319.9	304.3	310.8	307.8	280.5	309.3	299.7
67.5°	3433.6	1342.2	230.6	285.6	309.8	297.2	307.8	305.8	279.0	308.3	297.2
70°	2831.6	962.7	194.8	239.7	259.3	261.9	289.1	292.7	266.9	289.6	269.4
72.5°	2014.7	602.5	168.0	185.7	209.4	224.0	263.9	275.0	250.8	251.8	235.1
75°	997.0	323.4	149.9	143.3	163.0	186.7	230.1	250.8	227.1	209.9	204.4
77.5°	336.5	183.2	126.6	115.5	126.6	149.9	190.7	219.0	200.3	177.6	174.1
80°	174.1	133.2	98.9	92.8	99.9	116.1	149.4	182.1	171.0	172.1	141.8
82.5°	108.5	81.2	71.1	70.6	75.7	88.8	110.0	147.8	146.8	125.6	91.3
85°	50.5	46.9	45.4	46.9	48.4	50.5	71.6	105.5	111.5	67.6	60.0
87.5°	21.2	20.7	18.2	19.7	21.7	21.2	28.8	44.9	62.6	42.4	38.9
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)