

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: P197288

Luminaire Tested: **NAV-AF-02-D-UNV-T3R-8030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197288
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-8030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8167 lumens
Efficiency: N/A
Efficacy: 96.1 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): 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

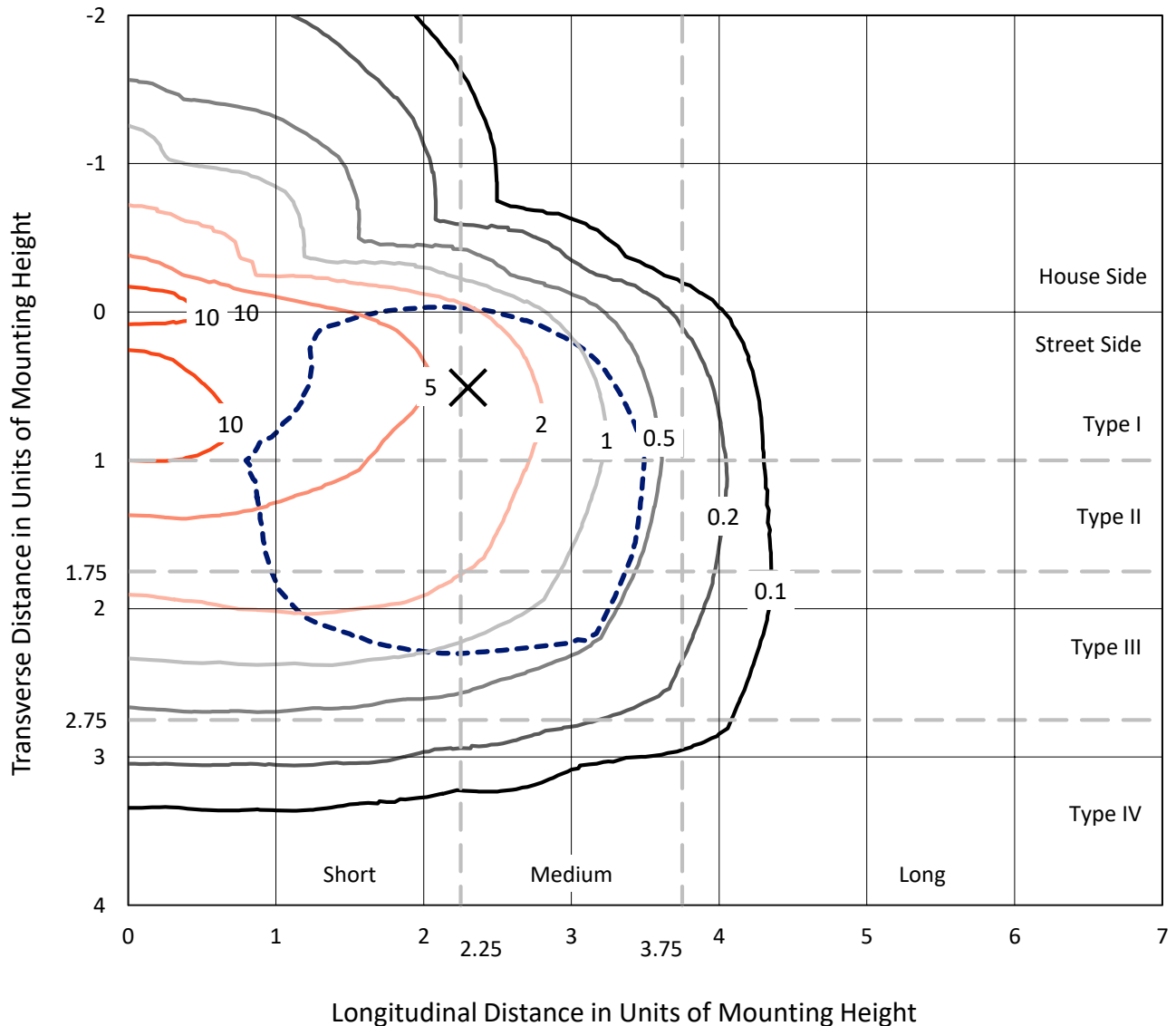


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Iso-Footcandle Lines of Horizontal Illumination

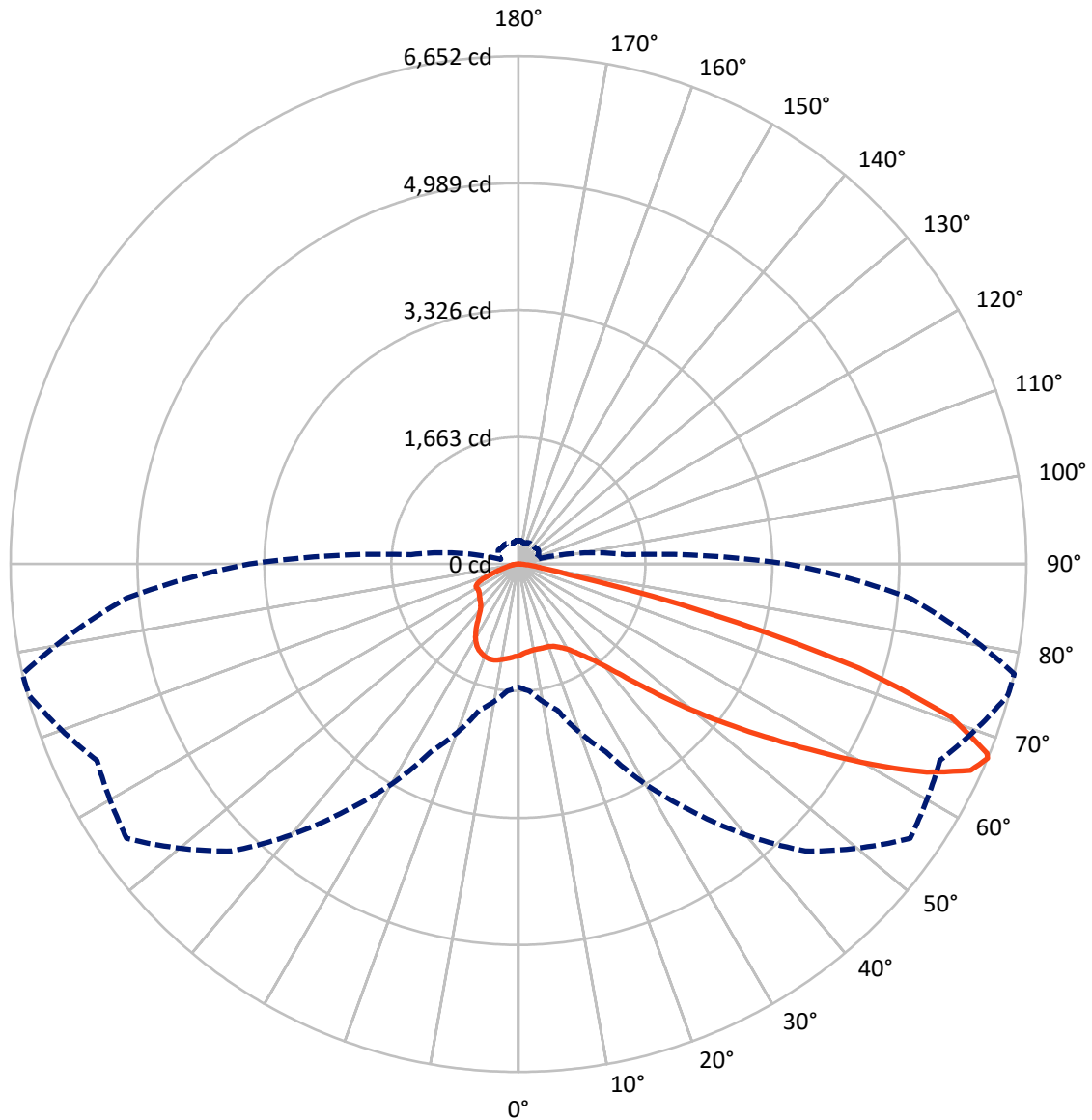
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 14.5 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	1403.5	0.0	1403.5
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	6763.5	0.0	6763.5
	% Fixture	82.8	0.0	82.8
Total	Lumens	8167.0	0.0	8167.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.1	1.3
10°-20°	296.5	3.6
20°-30°	503.7	6.2
30°-40°	805.8	9.9
40°-50°	1240.6	15.2
50°-60°	1721.2	21.1
60°-70°	2296.0	28.1
70°-80°	1092.7	13.4
80°-90°	103.5	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°	8167.0	100.0
0°-180°	8167.0	100.0



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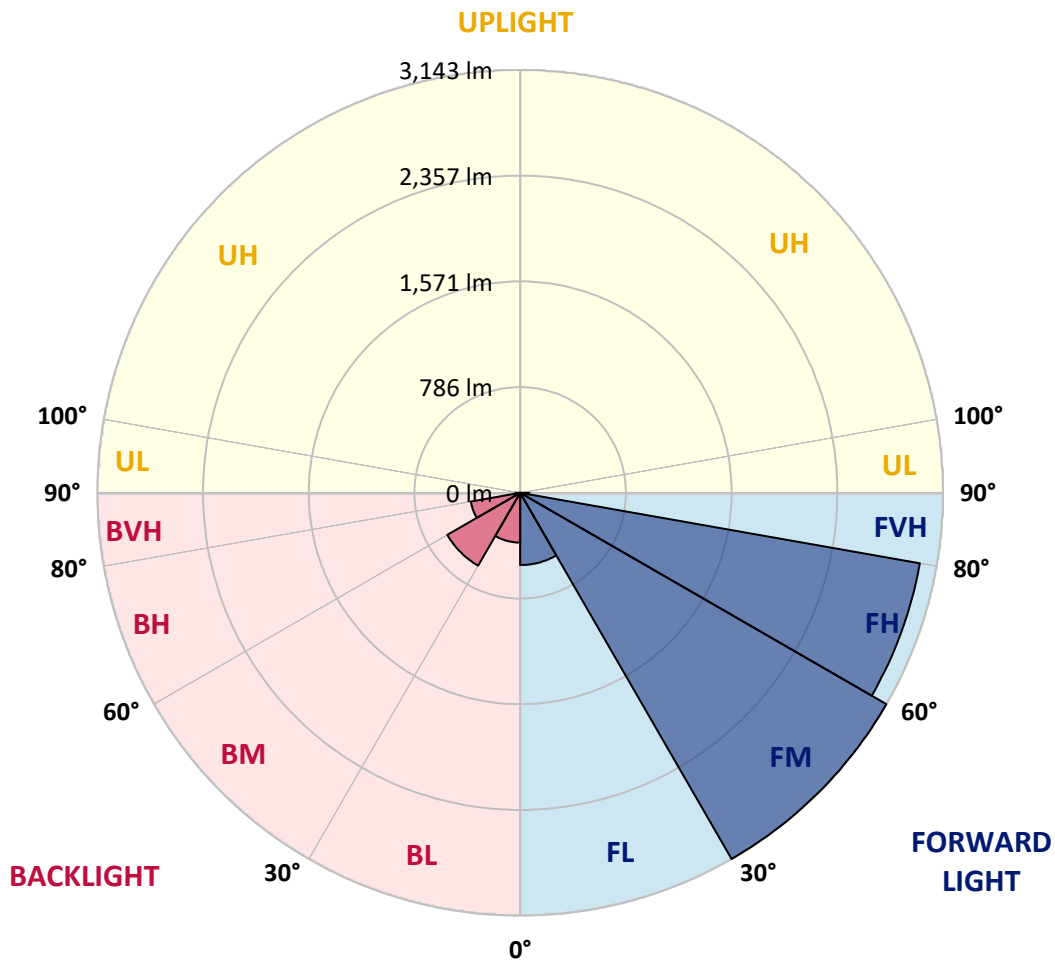
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	537.1	6.6			
FM	(30°-60°)	3142.7	38.5			
FH	(60°-80°)	3016.5	36.9			G2/5000
FVH	(80°-90°)	67.2	0.8			G1/100
BL	(0°-30°)	370.2	4.5	B1/500		
BM	(30°-60°)	624.9	7.7	B1/1000		
BH	(60°-80°)	372.1	4.6	B1/500		G1/500
BVH	(80°-90°)	36.3	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°	1202.0	1202.0	1202.0	1202.0	1202.0	1202.0	1202.0	1202.0	1202.0	1202.0	1202.0
2.5°	1077.8	1082.8	1083.3	1098.0	1104.5	1121.2	1139.4	1155.5	1169.7	1174.7	1183.8
5°	969.8	969.8	971.3	980.9	999.5	1026.3	1064.2	1105.5	1149.0	1159.6	1186.3
7.5°	913.2	914.2	915.2	924.8	939.5	963.2	1001.1	1057.6	1129.8	1147.4	1194.4
10°	918.3	916.7	911.7	909.7	915.7	930.9	963.7	1021.7	1113.6	1140.9	1209.0
12.5°	997.5	994.5	977.8	953.6	931.4	925.8	948.5	1003.6	1106.1	1140.9	1233.8
15°	1133.3	1135.3	1102.5	1052.0	994.0	954.6	951.6	997.0	1103.5	1143.9	1262.5
17.5°	1310.0	1311.0	1265.6	1192.4	1096.0	1014.7	972.3	997.0	1103.5	1146.9	1290.3
20°	1497.8	1490.7	1439.2	1347.4	1222.2	1098.0	1010.1	1003.1	1106.6	1151.5	1316.6
22.5°	1658.8	1652.3	1598.2	1501.8	1358.5	1196.4	1061.1	1023.3	1123.2	1170.2	1353.4
25°	1799.7	1803.7	1751.2	1642.7	1494.3	1307.5	1137.4	1069.7	1158.0	1204.0	1398.8
27.5°	1970.8	1963.2	1902.7	1799.2	1634.1	1422.6	1232.8	1128.3	1199.4	1244.9	1454.4
30°	2168.7	2165.2	2083.4	1976.9	1788.1	1551.3	1327.2	1191.4	1253.5	1300.9	1524.0
32.5°	2409.0	2408.5	2320.6	2189.9	1961.2	1696.7	1438.7	1277.7	1332.2	1380.2	1616.4
35°	2681.1	2680.6	2589.7	2417.1	2160.6	1857.7	1570.0	1382.7	1429.6	1480.1	1726.5
37.5°	2869.9	2866.9	2819.4	2651.8	2381.2	2045.0	1734.0	1524.0	1540.2	1596.7	1859.2
40°	2906.2	2924.4	2965.3	2866.3	2622.0	2253.0	1898.6	1676.0	1691.1	1763.8	2026.3
42.5°	2866.9	2890.6	3026.4	3054.1	2862.8	2504.9	2104.6	1886.5	1905.7	1996.0	2222.7
45°	2832.5	2853.2	3023.3	3158.1	3100.6	2779.5	2361.5	2143.5	2179.8	2291.9	2446.8
47.5°	2774.0	2793.1	2963.8	3176.8	3236.4	3044.0	2671.0	2452.4	2515.0	2650.8	2702.3
50°	2770.9	2779.5	2882.5	3114.2	3283.3	3245.0	3013.8	2813.8	2909.8	3066.3	2985.0
52.5°	2694.2	2754.3	2847.7	3014.3	3284.3	3362.1	3351.5	3210.1	3358.0	3531.2	3294.9
55°	2224.7	2293.9	2731.6	2965.3	3278.3	3462.5	3659.9	3631.6	3862.9	4045.1	3642.3
57.5°	2077.3	2106.6	2396.4	2979.9	3328.8	3628.6	3968.4	4084.5	4440.4	4639.3	4058.7
60°	2036.9	2067.7	2329.2	2987.0	3465.6	3931.0	4386.9	4595.8	5119.3	5330.4	4531.7
62.5°	1992.0	2031.9	2334.3	2993.6	3705.9	4378.3	4942.2	5150.6	5816.5	6004.8	4975.0
65°	1860.8	1913.8	2240.9	2952.2	3968.9	4939.6	5676.2	5729.2	6392.5	6512.1	5242.5
67°	1611.9	1669.9	1984.4	2712.9	3944.6	5317.7	6263.3	6091.1	6637.3	6652.0	5155.7
67.5°	1533.1	1593.2	1897.6	2613.4	3875.5	5367.2	6367.2	6141.1	6635.3	6619.2	5074.9
70°	1032.3	1100.0	1343.8	1918.8	3108.7	4995.2	6342.0	5987.1	6200.2	6014.9	4360.1
72.5°	512.4	514.4	670.4	1051.0	1883.5	3582.7	5290.5	5121.9	5026.0	4676.1	3199.5
75°	246.9	251.4	316.5	464.4	794.1	1849.6	3607.9	3456.0	2942.6	2547.8	1601.3
77.5°	188.3	192.8	245.8	302.4	331.2	603.3	1787.1	1444.3	852.6	681.0	451.3
80°	145.4	154.0	207.5	232.2	219.1	241.8	561.9	442.2	331.7	304.4	223.6
82.5°	113.6	118.6	176.2	176.2	151.4	162.0	261.5	255.4	206.0	185.8	120.1
85°	80.3	90.4	141.9	131.3	99.4	100.5	156.5	149.9	106.0	85.3	46.9
87.5°	35.8	45.9	101.0	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°	1202.0	1202.0	1202.0	1202.0	1202.0	1202.0	1202.0	1202.0	1202.0	1202.0	1202.0
2.5°	1193.9	1202.0	1214.6	1222.2	1232.3	1236.3	1240.3	1247.4	1253.0	1251.4	1248.9
5°	1205.0	1218.6	1234.3	1239.3	1239.3	1234.3	1231.2	1231.8	1230.2	1229.2	1226.2
7.5°	1221.2	1239.8	1250.9	1245.9	1230.2	1210.5	1191.9	1180.8	1170.2	1163.6	1165.6
10°	1243.9	1264.6	1265.1	1242.9	1205.5	1162.6	1125.7	1102.0	1079.3	1069.2	1072.2
12.5°	1276.7	1297.4	1279.7	1231.8	1166.1	1099.0	1031.3	982.4	938.5	927.9	924.8
15°	1312.0	1328.2	1288.8	1208.0	1109.6	999.0	885.4	812.2	763.3	754.7	751.7
17.5°	1342.8	1351.9	1284.3	1165.6	1020.2	846.1	713.8	664.3	654.2	659.3	659.3
20°	1370.1	1367.0	1264.6	1100.0	879.4	676.5	599.7	599.2	612.8	625.5	626.5
22.5°	1404.4	1380.7	1233.3	1002.6	711.3	564.4	551.3	564.4	579.5	593.7	595.2
25°	1445.3	1395.8	1191.4	863.7	572.0	512.4	517.9	529.0	538.6	549.7	550.2
27.5°	1486.2	1407.4	1132.3	700.7	496.2	479.1	485.1	489.7	492.2	499.3	499.3
30°	1533.6	1416.5	1047.0	561.4	461.4	449.8	446.3	444.2	446.3	455.8	456.4
32.5°	1593.2	1432.7	930.4	481.6	445.2	429.1	410.9	400.8	407.9	425.1	428.1
35°	1660.8	1451.9	790.5	449.8	439.7	419.0	385.7	370.0	372.6	388.2	390.7
37.5°	1745.7	1476.6	652.7	442.2	445.2	418.0	374.1	351.9	340.8	341.3	340.8
40°	1854.2	1501.3	543.7	444.2	457.4	420.5	368.5	333.7	310.5	311.5	313.5
42.5°	1967.8	1517.5	474.5	450.3	472.0	424.0	366.5	316.0	295.8	313.0	328.6
45°	2100.5	1512.9	438.7	455.8	483.1	425.6	358.9	314.0	297.3	348.8	378.1
47.5°	2253.0	1493.2	418.5	458.4	486.1	425.1	353.4	320.6	310.0	399.3	432.6
50°	2418.6	1462.5	402.3	454.3	484.6	423.0	359.4	328.6	315.0	410.4	436.2
52.5°	2599.8	1434.2	385.7	445.2	477.1	417.0	367.0	325.1	300.9	378.1	397.8
55°	2814.4	1427.6	367.0	429.6	464.4	410.4	363.0	314.0	285.2	335.2	347.3
57.5°	3059.7	1468.5	342.8	410.4	447.3	397.3	353.4	307.9	279.7	304.9	311.5
60°	3371.2	1558.9	317.0	390.2	426.1	377.6	344.8	309.5	281.2	300.4	301.9
62.5°	3614.5	1640.1	293.8	365.5	397.8	353.9	335.7	311.0	285.7	306.4	303.9
65°	3702.8	1600.3	265.0	328.6	357.9	327.6	323.1	312.0	285.7	310.0	304.4
67°	3521.6	1410.0	237.8	291.8	320.1	304.4	311.0	307.9	280.7	309.5	299.9
67.5°	3435.3	1342.8	230.7	285.7	310.0	297.3	307.9	305.9	279.2	308.4	297.3
70°	2833.0	963.2	194.9	239.8	259.5	262.0	289.3	292.8	267.0	289.8	269.6
72.5°	2015.7	602.8	168.1	185.8	209.5	224.1	264.0	275.1	250.9	251.9	235.2
75°	997.5	323.6	149.9	143.4	163.1	186.8	230.2	250.9	227.2	210.0	204.5
77.5°	336.7	183.2	126.7	115.6	126.7	149.9	190.8	219.1	200.4	177.7	174.2
80°	174.2	133.3	98.9	92.9	100.0	116.1	149.4	182.2	171.1	172.1	141.9
82.5°	108.5	81.3	71.2	70.7	75.7	88.8	110.0	147.9	146.9	125.7	91.4
85°	50.5	46.9	45.4	46.9	48.5	50.5	71.7	105.5	111.6	67.6	60.1
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)