

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: P196784

Luminaire Tested: **NAV-AF-02-D-UNV-T3-7030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196784
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-T3-7030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9520.8 lumens
Efficiency: N/A
Efficacy: 112.0 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

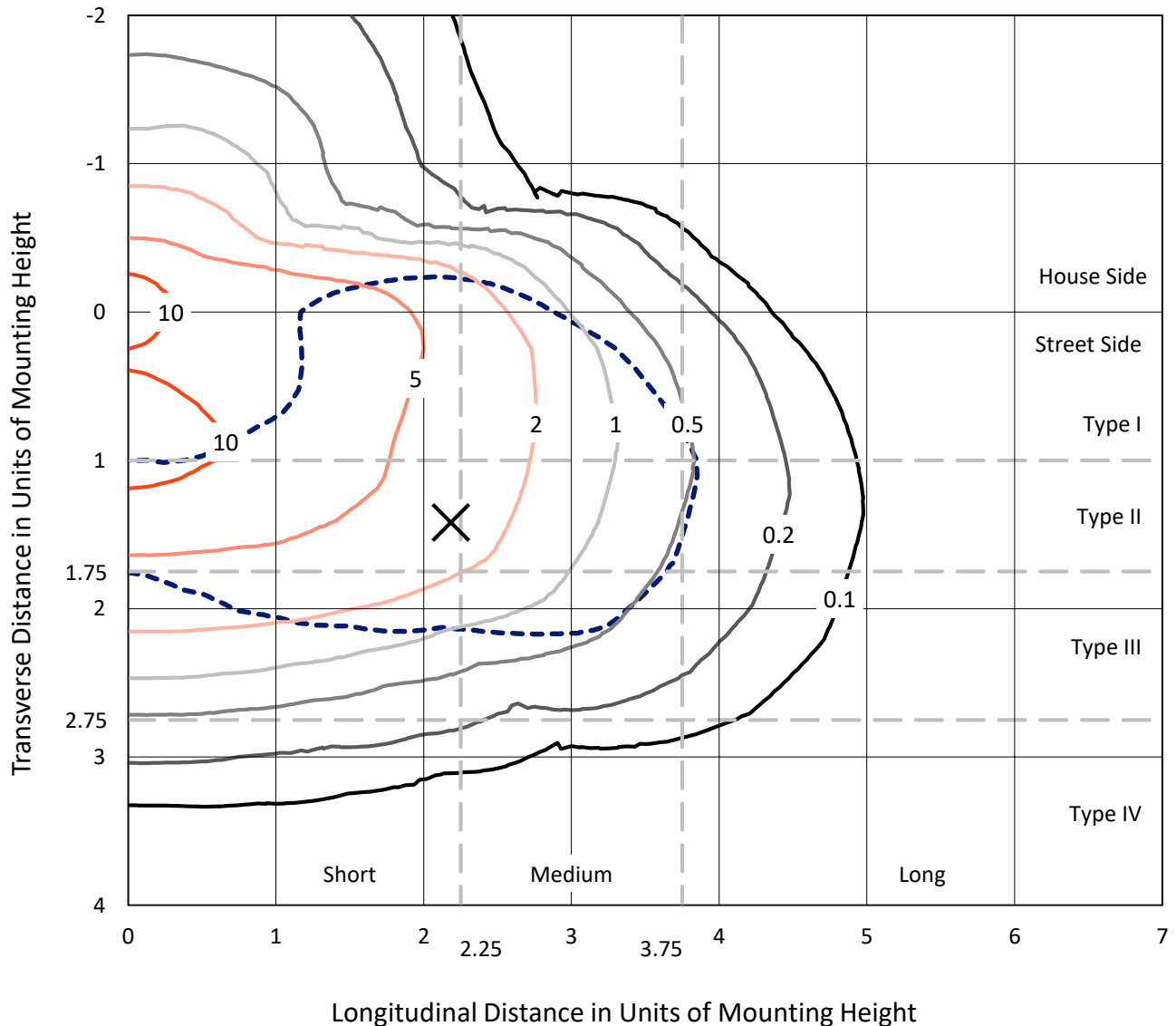
Input Watts (W): 85
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

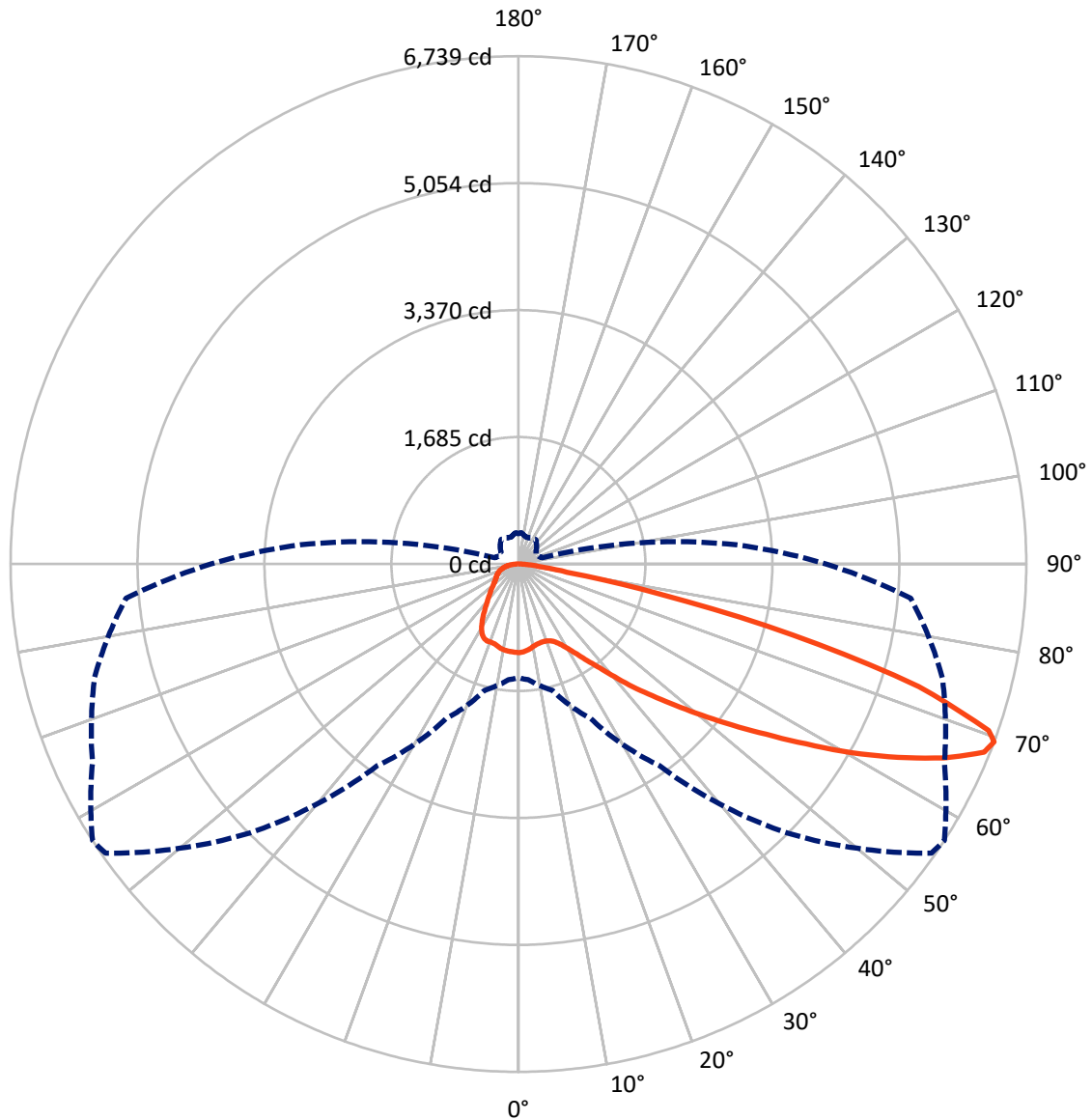
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 12 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	2100.9	0.0	2100.9
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	7419.9	0.0	7419.9
	% Fixture	77.9	0.0	77.9
Total	Lumens	9520.8	0.0	9520.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.1	1.2
10°-20°	313.1	3.3
20°-30°	520.9	5.5
30°-40°	850.6	8.9
40°-50°	1435.6	15.1
50°-60°	2233.2	23.5
60°-70°	2660.3	27.9
70°-80°	1239.3	13.0
80°-90°	157.6	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°	9520.8	100.0
0°-180°	9520.8	100.0



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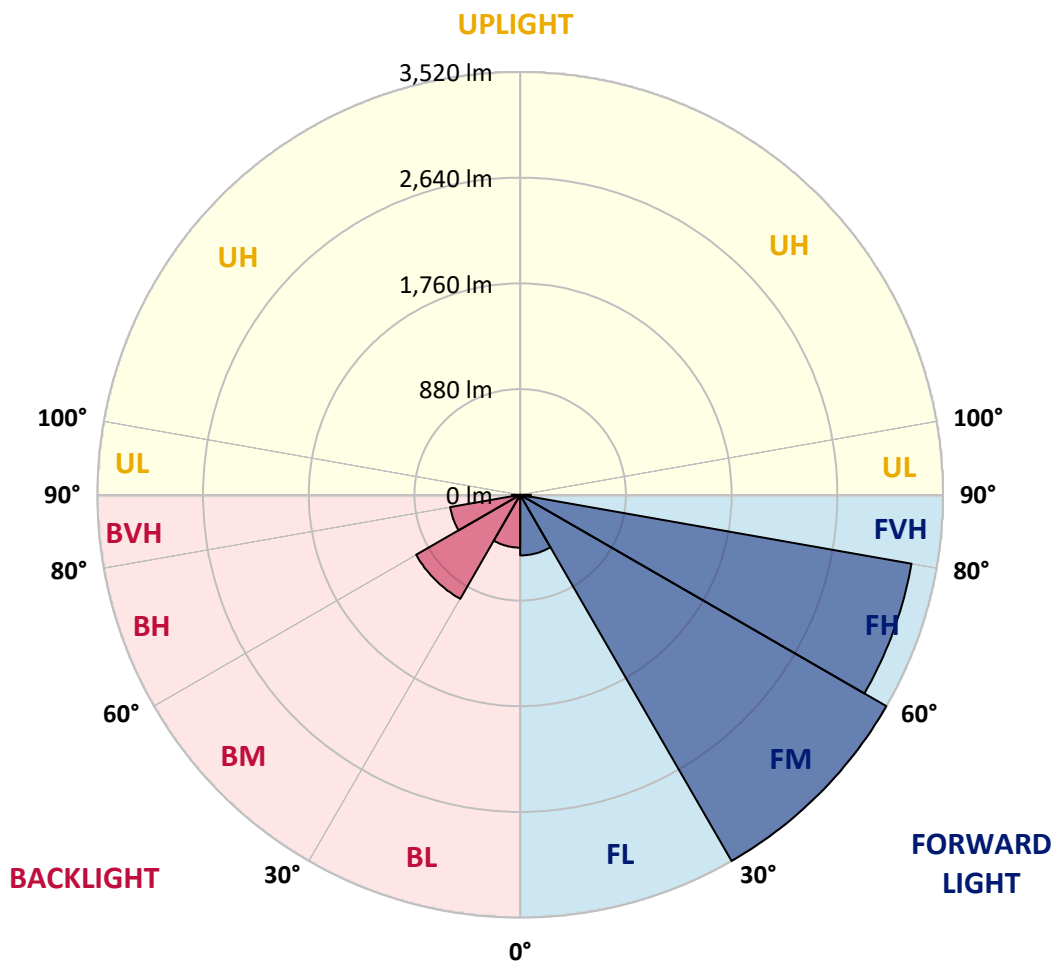
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	504.2	5.3			
FM	(30°-60°)	3519.6	37.0			
FH	(60°-80°)	3307.6	34.7			G2/5000
FVH	(80°-90°)	88.6	0.9			G1/100
BL	(0°-30°)	440.0	4.6	B1/500		
BM	(30°-60°)	999.9	10.5	B1/1000		
BH	(60°-80°)	592.0	6.2	B2/1000		G2/1000
BVH	(80°-90°)	69.0	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°	1176.4	1176.4	1176.4	1176.4	1176.4	1176.4	1176.4	1176.4	1176.4	1176.4	1176.4
2.5°	1169.7	1169.7	1172.8	1172.8	1172.8	1171.5	1167.9	1169.1	1166.7	1164.8	1161.8
5°	1145.9	1147.1	1150.8	1152.0	1153.9	1154.5	1154.5	1153.9	1154.5	1154.5	1152.5
7.5°	1113.1	1114.2	1118.5	1120.9	1126.5	1131.3	1133.7	1133.7	1136.8	1139.2	1139.8
10°	1092.9	1092.9	1095.4	1095.4	1099.5	1102.0	1110.0	1109.3	1117.8	1125.8	1129.4
12.5°	1090.4	1090.4	1089.2	1085.0	1082.5	1081.8	1089.9	1091.1	1103.8	1117.8	1124.6
15°	1098.4	1098.4	1094.7	1086.1	1077.1	1072.8	1080.7	1083.1	1097.2	1113.6	1124.0
17.5°	1124.0	1123.4	1115.4	1098.4	1082.5	1075.8	1078.3	1080.7	1093.4	1112.4	1125.2
20°	1180.6	1180.6	1163.6	1132.5	1105.0	1089.2	1085.6	1087.3	1096.5	1114.2	1130.8
22.5°	1280.0	1281.8	1251.3	1200.2	1153.2	1119.7	1105.0	1106.9	1111.1	1128.2	1146.5
25°	1426.3	1421.5	1378.2	1305.6	1232.5	1175.2	1145.2	1147.1	1147.1	1162.9	1181.8
27.5°	1581.1	1582.3	1520.2	1442.1	1345.8	1260.6	1213.0	1212.3	1211.8	1227.0	1247.0
30°	1756.1	1756.7	1684.8	1594.5	1484.2	1375.1	1303.8	1303.1	1297.7	1316.6	1342.8
32.5°	1947.4	1946.9	1863.3	1761.6	1639.0	1515.3	1422.7	1422.0	1417.7	1443.4	1475.1
35°	2159.6	2159.6	2076.7	1951.2	1818.8	1681.1	1573.8	1573.3	1575.6	1610.4	1640.2
37.5°	2414.9	2420.4	2320.4	2168.1	2023.6	1876.7	1751.8	1748.1	1729.9	1788.3	1837.7
40°	2681.3	2696.5	2592.9	2414.9	2258.9	2107.2	1969.4	1967.0	1951.2	2013.3	2093.1
42.5°	2969.6	3004.4	2889.2	2707.6	2537.4	2373.5	2235.1	2228.5	2167.4	2264.4	2389.4
45°	3347.6	3370.1	3203.1	3038.5	2878.2	2691.0	2526.5	2490.6	2429.6	2553.9	2716.0
47.5°	3604.8	3593.7	3489.5	3379.3	3276.2	3097.1	2844.0	2798.3	2724.0	2888.6	3067.1
50°	3764.4	3772.4	3713.8	3708.4	3702.9	3577.9	3202.5	3147.6	3061.7	3256.7	3465.1
52.5°	3870.0	3833.9	3844.3	3968.7	4119.2	4059.5	3607.8	3546.9	3458.5	3653.5	3888.7
55°	3826.0	3778.5	3874.3	4119.2	4473.3	4486.7	4052.8	3990.0	3914.4	4075.4	4398.3
57.5°	3644.4	3668.2	3819.2	4160.0	4715.3	4869.5	4564.2	4500.2	4351.5	4514.8	4882.4
60°	3389.0	3437.2	3668.2	4095.5	4884.8	5167.6	5125.6	5082.8	4826.8	4942.7	5390.8
62.5°	3114.7	3162.3	3446.2	3985.1	4808.6	5431.5	5676.6	5650.4	5351.6	5354.7	5713.1
65°	2709.4	2728.9	3019.1	3684.0	4597.1	5669.9	6228.3	6205.1	5853.3	5706.4	5803.3
67.5°	2046.2	2070.6	2308.8	2908.1	3953.4	5540.6	6668.8	6665.3	6155.0	5836.8	5588.8
69°	1511.0	1540.9	1735.4	2257.8	3268.9	5048.1	6689.6	6739.0	6236.7	5823.4	5226.1
70°	1105.7	1139.8	1319.7	1792.1	2722.7	4504.4	6512.2	6618.3	6205.6	5738.8	4943.3
72.5°	470.0	481.5	569.9	808.8	1381.1	2716.0	5334.0	5557.2	5604.7	5142.0	3862.0
75°	294.5	298.1	332.8	415.0	614.4	1123.4	3454.2	3758.4	4184.4	3989.4	2585.6
77.5°	221.9	225.0	245.1	285.8	381.6	419.3	1602.5	1910.8	2396.7	2346.7	1286.7
80°	170.0	171.9	185.3	207.8	268.8	262.7	520.0	653.4	1000.3	882.6	455.3
82.5°	133.6	134.1	145.7	149.9	187.7	176.8	260.9	290.7	404.2	335.9	222.5
85°	118.2	120.0	131.6	109.7	120.0	106.6	143.2	155.4	214.5	202.3	84.1
87.5°	60.3	63.4	110.4	93.9	60.3	50.6	62.9	67.6	87.2	94.5	40.9
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°	1176.4	1176.4	1176.4	1176.4	1176.4	1176.4	1176.4	1176.4	1176.4	1176.4	1176.4
2.5°	1162.4	1162.9	1164.8	1167.9	1172.8	1178.8	1186.1	1193.4	1197.7	1200.8	1199.5
5°	1152.5	1153.2	1156.8	1162.4	1168.4	1177.6	1189.9	1198.9	1205.6	1209.9	1209.3
7.5°	1140.4	1142.3	1149.6	1155.6	1164.1	1171.5	1181.3	1189.9	1196.5	1200.8	1200.2
10°	1131.3	1133.1	1142.3	1150.2	1157.5	1158.7	1156.8	1154.5	1153.9	1156.8	1155.6
12.5°	1127.0	1130.8	1139.2	1144.7	1141.6	1130.1	1116.6	1111.1	1109.3	1115.4	1116.1
15°	1128.2	1131.3	1138.6	1134.9	1118.5	1098.9	1091.7	1096.0	1099.5	1103.3	1103.8
17.5°	1131.3	1133.1	1134.9	1121.5	1098.4	1085.6	1083.1	1078.8	1067.9	1061.8	1061.2
20°	1136.8	1139.2	1136.2	1114.9	1094.1	1077.1	1047.8	1021.6	996.6	983.3	977.7
22.5°	1155.6	1157.5	1148.4	1127.7	1096.0	1040.4	981.3	936.3	897.9	877.2	869.1
25°	1192.9	1196.0	1183.1	1156.8	1074.0	977.1	893.5	832.7	784.5	759.5	752.8
27.5°	1258.1	1261.1	1247.0	1178.8	1022.7	892.3	791.1	730.8	689.4	668.0	665.0
30°	1355.6	1359.8	1347.0	1178.3	944.8	784.5	691.2	655.9	632.1	617.5	616.9
32.5°	1491.0	1506.8	1454.4	1157.5	848.5	675.3	615.6	603.4	591.8	582.2	582.2
35°	1662.8	1700.0	1560.4	1114.2	742.4	601.0	573.6	562.0	547.4	537.0	535.8
37.5°	1868.3	1926.1	1635.9	1037.4	650.9	565.1	547.9	529.1	505.9	485.7	481.0
40°	2150.4	2163.9	1673.2	912.5	582.7	545.5	524.2	500.4	471.1	448.6	446.3
42.5°	2433.9	2389.9	1665.8	778.4	543.7	527.8	499.9	473.6	447.4	428.6	428.6
45°	2756.3	2587.5	1610.4	643.6	508.4	507.7	477.3	452.3	432.1	418.1	415.0
47.5°	3064.7	2764.8	1514.7	544.3	471.8	487.7	462.6	442.5	424.3	410.9	408.4
50°	3438.9	2970.2	1412.9	474.8	436.4	470.0	456.4	446.3	428.6	405.4	402.9
52.5°	3810.8	3210.4	1334.3	422.4	405.4	455.9	460.2	461.4	444.9	399.9	396.8
55°	4210.0	3467.1	1251.3	381.6	379.7	449.3	468.7	467.5	459.6	401.1	396.2
57.5°	4589.8	3724.8	1127.7	352.9	359.6	442.5	470.6	451.0	437.0	407.2	399.3
60°	4904.3	3938.1	945.9	332.8	342.5	429.1	458.4	429.1	405.4	405.9	398.7
62.5°	5057.3	3997.9	723.6	309.6	328.6	407.2	440.7	412.7	390.7	408.4	404.2
65°	4940.8	3827.9	515.7	288.3	311.5	381.6	430.4	398.7	383.4	420.5	415.7
67.5°	4522.7	3364.6	374.2	269.5	295.0	355.3	410.9	385.8	376.1	429.7	418.8
69°	4078.3	2904.9	324.3	258.4	283.4	341.3	398.0	379.1	370.6	417.0	401.1
70°	3709.1	2550.8	299.3	251.8	273.7	333.5	388.3	374.9	365.2	401.6	382.7
72.5°	2659.4	1648.8	251.8	231.6	248.1	315.8	366.9	359.0	344.3	362.6	350.5
75°	1606.7	860.6	213.9	210.9	221.2	291.4	342.0	332.1	317.6	319.4	313.2
77.5°	738.1	397.3	179.1	186.5	193.2	260.9	311.5	300.5	287.2	282.2	282.9
80°	323.6	232.2	149.9	159.1	162.8	234.7	278.5	266.4	251.8	277.9	257.9
82.5°	175.0	134.7	117.0	123.1	133.6	204.2	242.0	226.1	212.1	246.8	199.3
85°	70.7	68.9	79.2	85.3	92.7	146.9	202.3	186.0	168.8	151.3	147.5
87.5°	30.5	32.9	39.0	41.4	49.3	91.4	135.9	118.9	119.4	102.3	100.5
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)