

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: P196658

Luminaire Tested: **NAV-AF-02-D-UNV-SL4-7030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196658
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24284)
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-SL4-7030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL
LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7404.5 lumens
Efficiency: N/A
Efficacy: 112.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-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

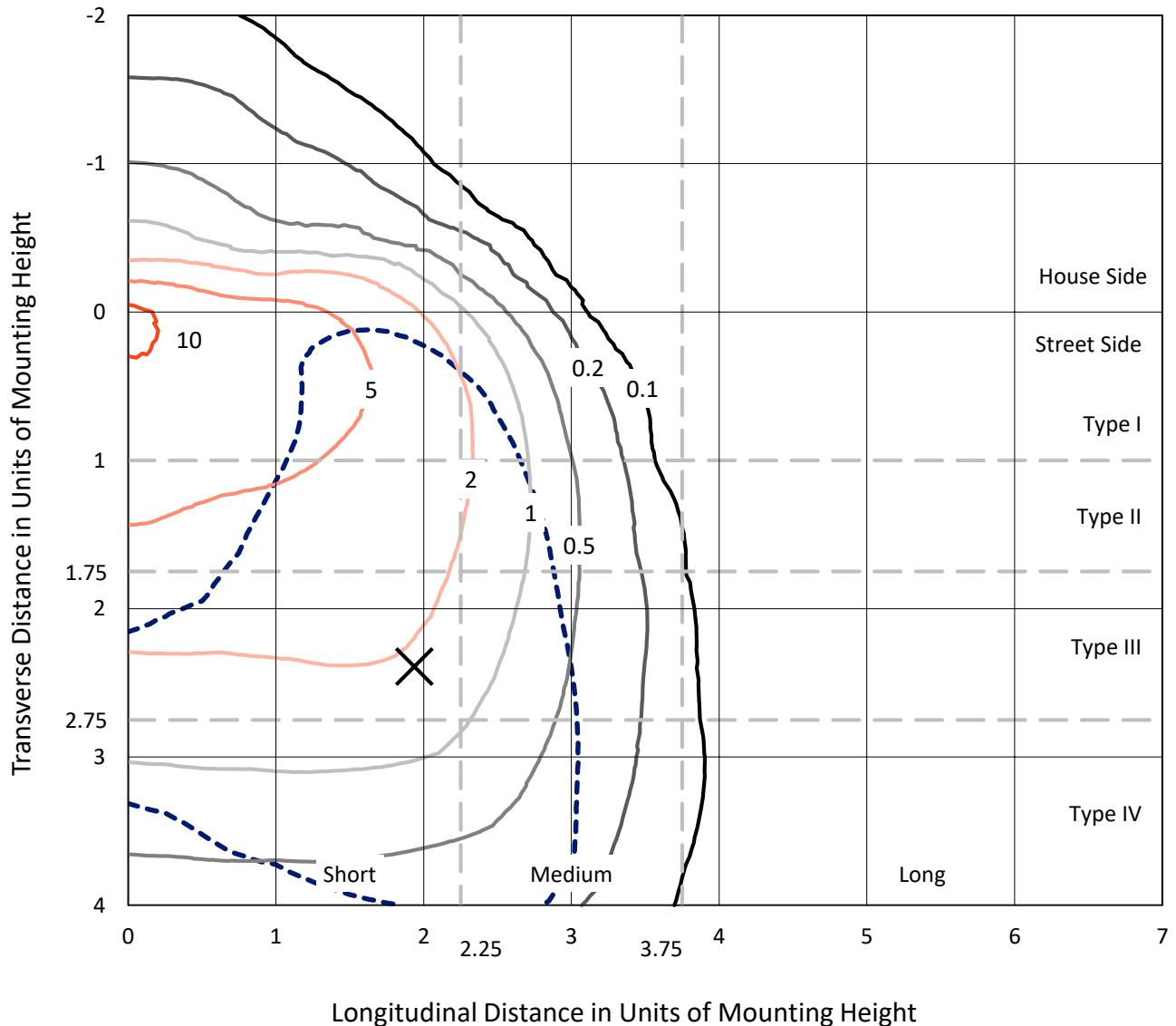


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Iso-Footcandle Lines of Horizontal Illumination

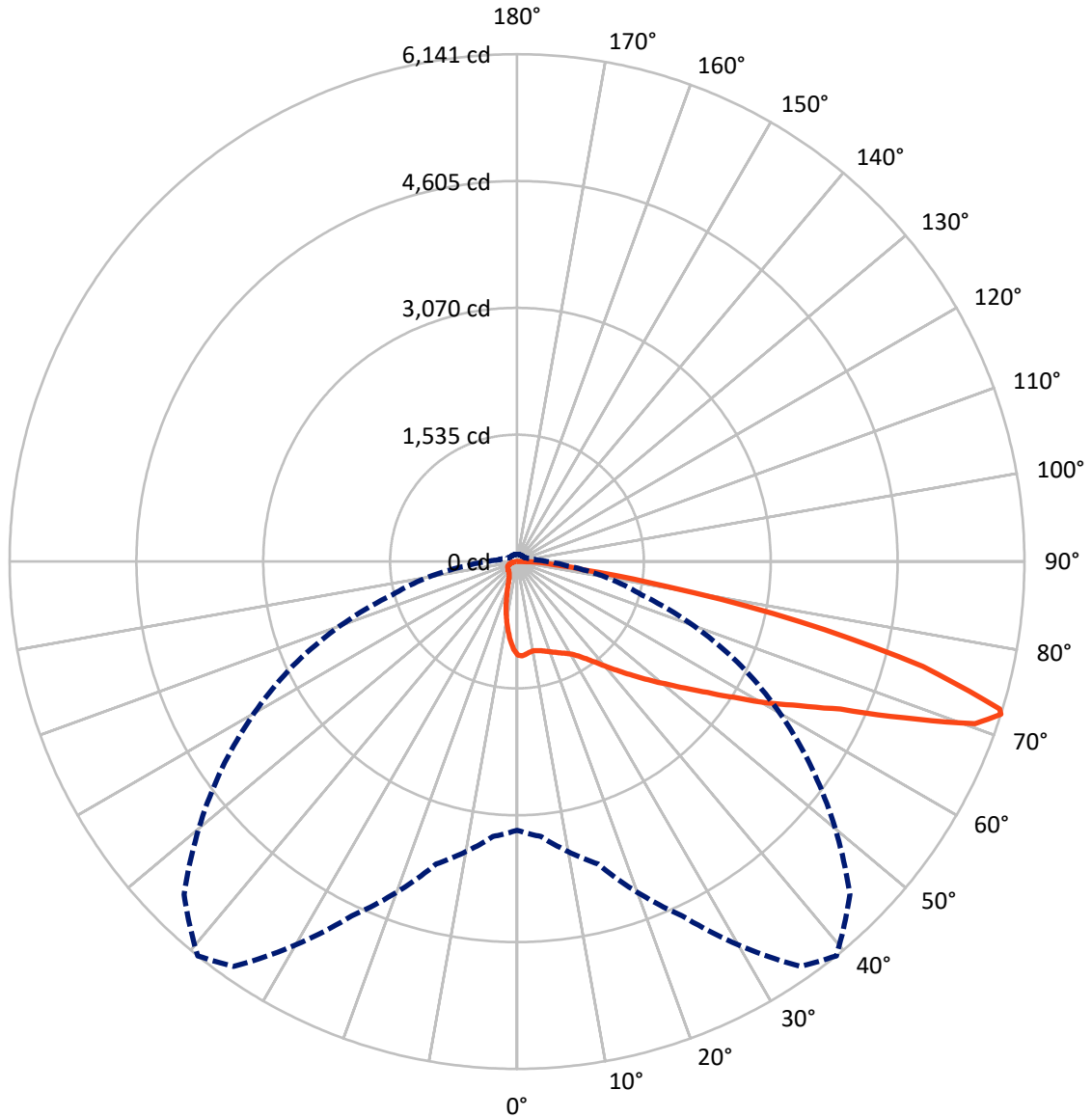
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 11.3 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral - - - Horizontal Cone Through 72-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	849.0	0.0	849.0
	% Fixture	11.5	0.0	11.5
Street Side	Lumens	6555.5	0.0	6555.5
	% Fixture	88.5	0.0	88.5
Total	Lumens	7404.5	0.0	7404.5
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.2	1.3
10°-20°	244.2	3.3
20°-30°	380.5	5.1
30°-40°	585.9	7.9
40°-50°	955.1	12.9
50°-60°	1484.2	20.0
60°-70°	1986.6	26.8
70°-80°	1428.6	19.3
80°-90°	242.2	3.3
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°	7404.5	100.0
0°-180°	7404.5	100.0

Coefficient of Utilization



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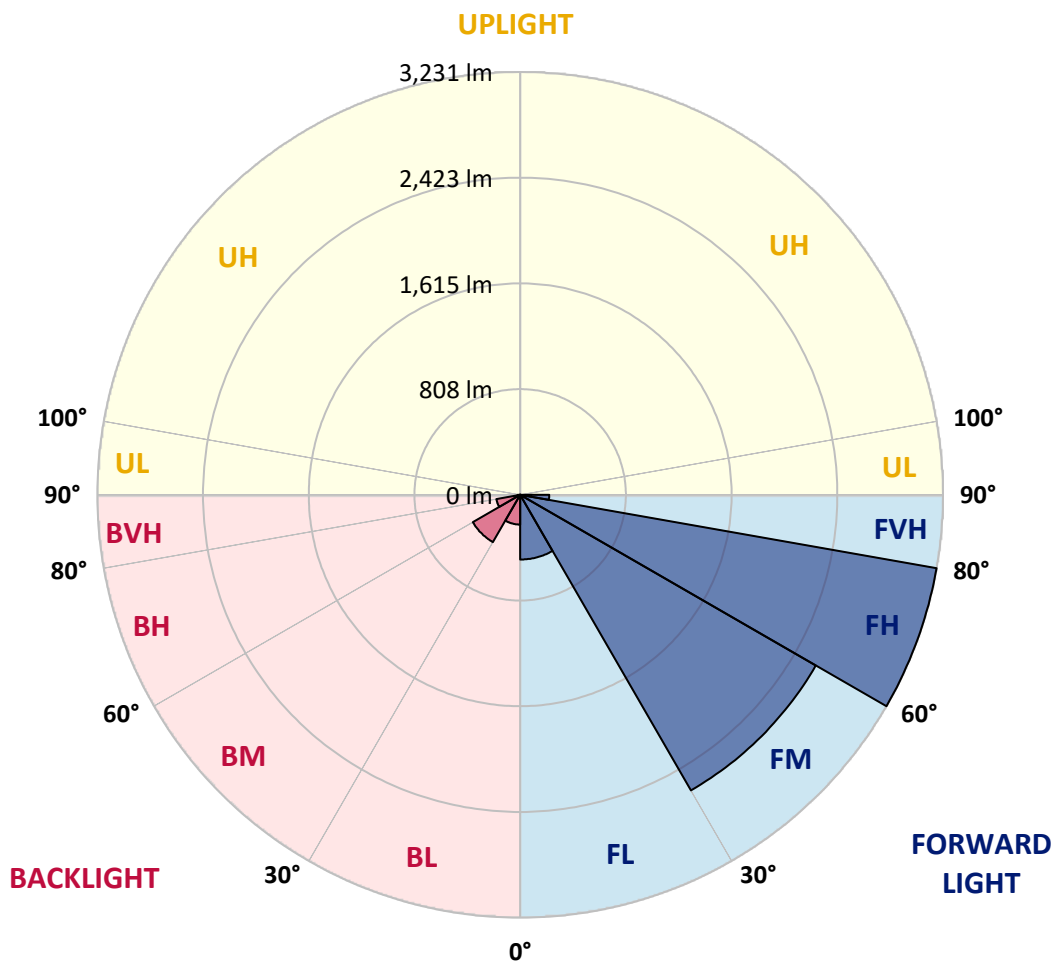
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	494.6	6.7			
FM (30°-60°)	2608.0	35.2			
FH (60°-80°)	3230.7	43.6			G2/5000
FVH (80°-90°)	222.2	3.0			G2/225
BL (0°-30°)	227.3	3.1	B1/500		
BM (30°-60°)	417.3	5.6	B1/1000		
BH (60°-80°)	184.5	2.5	B1/500		G1/500
BVH (80°-90°)	20.0	0.3			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 IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	1130.9	1130.9	1130.9	1130.9	1130.9	1130.9	1130.9	1130.9	1130.9	1130.9	1130.9
2.5°	1155.2	1155.6	1154.3	1149.7	1145.7	1143.7	1140.2	1134.3	1126.4	1120.9	1116.4
5°	1144.3	1145.7	1144.7	1137.3	1130.3	1126.4	1120.9	1112.4	1102.0	1097.5	1087.0
7.5°	1135.8	1136.8	1133.8	1125.4	1111.9	1106.9	1097.0	1086.0	1076.6	1070.2	1057.7
10°	1129.8	1130.9	1128.3	1119.9	1104.9	1099.0	1087.0	1075.1	1062.6	1054.8	1040.8
12.5°	1121.3	1123.3	1123.3	1119.4	1109.4	1105.4	1093.4	1080.6	1069.2	1060.7	1043.3
15°	1119.9	1122.3	1126.8	1126.4	1123.3	1120.4	1110.9	1097.9	1088.0	1078.1	1056.7
17.5°	1132.3	1137.7	1146.6	1149.7	1147.7	1141.2	1130.3	1118.4	1107.5	1097.9	1071.7
20°	1163.6	1166.6	1180.0	1186.0	1176.0	1166.6	1152.1	1136.8	1126.8	1119.4	1085.6
22.5°	1210.8	1214.9	1225.8	1226.2	1205.3	1193.8	1175.5	1156.6	1147.2	1144.3	1104.5
25°	1286.4	1285.4	1288.3	1275.9	1238.1	1224.8	1202.4	1180.5	1174.0	1180.0	1132.3
27.5°	1376.8	1374.4	1364.8	1332.6	1275.5	1258.0	1231.3	1211.8	1211.8	1225.8	1170.0
30°	1481.2	1478.8	1447.9	1393.7	1319.7	1299.7	1271.4	1251.1	1261.5	1288.3	1221.3
32.5°	1591.6	1582.6	1539.4	1466.8	1382.7	1361.0	1333.6	1312.8	1332.6	1378.3	1294.8
35°	1695.4	1690.5	1637.2	1551.3	1464.3	1445.9	1427.0	1401.2	1433.1	1504.1	1398.7
37.5°	1802.8	1798.9	1733.7	1642.2	1563.7	1551.3	1535.4	1517.5	1568.8	1662.2	1539.4
40°	1922.6	1914.7	1832.6	1741.1	1679.6	1673.7	1665.1	1660.2	1742.6	1881.9	1717.3
42.5°	2058.3	2042.9	1937.0	1850.1	1805.8	1810.8	1806.3	1826.2	1952.5	2135.4	1929.1
45°	2213.4	2182.6	2040.9	1965.9	1945.5	1965.3	1974.8	2025.4	2200.5	2428.1	2165.6
47.5°	2358.6	2318.8	2154.7	2091.7	2103.0	2137.3	2164.2	2253.7	2472.3	2717.4	2407.2
50°	2492.2	2447.5	2276.5	2221.8	2277.5	2326.2	2381.9	2508.1	2761.6	3015.1	2628.9
52.5°	2591.2	2558.9	2398.2	2364.1	2477.8	2542.5	2631.4	2790.9	3053.9	3299.0	2826.7
55°	2667.7	2650.3	2517.2	2527.0	2704.5	2796.9	2904.7	3088.2	3363.1	3553.4	2985.8
57.5°	2756.2	2743.3	2652.9	2723.9	2985.8	3102.1	3229.3	3433.2	3657.4	3777.6	3110.6
60°	2849.6	2849.6	2803.9	2960.9	3337.8	3470.9	3597.7	3756.3	3950.6	3979.4	3161.3
62.5°	2920.2	2938.6	2955.0	3213.5	3671.7	3837.3	3976.5	4128.6	4254.3	4078.8	3042.0
65°	3022.5	3061.9	3154.4	3505.2	4085.3	4302.0	4489.9	4617.7	4500.4	3999.8	2652.9
67.5°	3198.6	3256.7	3453.5	3939.7	4718.6	5043.1	5225.6	5004.8	4452.1	3502.2	2032.0
70°	3357.1	3439.2	3775.7	4490.9	5541.6	5878.7	5794.7	4914.9	3877.5	2567.3	1250.2
72°	3251.8	3341.2	3790.5	4730.9	5981.5	6140.6	5697.8	4355.7	2996.2	1566.7	616.3
72.5°	3182.6	3275.6	3742.3	4725.0	5993.5	6107.3	5563.1	4133.5	2719.9	1370.8	498.6
75°	2658.8	2738.2	3217.9	4187.7	5281.7	5072.9	4341.3	2675.1	1250.2	442.8	256.4
77.5°	1736.2	1796.9	2218.8	2901.3	3699.6	3498.8	2642.3	1252.5	468.7	268.9	192.9
80°	872.3	915.6	1187.4	1525.5	1996.7	1837.0	1219.8	606.0	313.7	194.4	151.7
82.5°	606.9	646.7	817.7	778.9	834.5	807.8	573.6	505.6	234.6	122.8	79.5
85°	509.0	550.2	676.6	555.2	454.3	414.1	411.1	477.7	155.0	60.6	67.0
87.5°	443.9	506.5	558.2	405.6	311.6	274.9	302.7	437.9	49.1	33.4	20.4
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°	1130.9	1130.9	1130.9	1130.9	1130.9	1130.9	1130.9	1130.9	1130.9	1130.9	1130.9
2.5°	1109.0	1107.5	1100.0	1088.5	1080.1	1074.7	1064.1	1063.7	1064.7	1055.8	1059.3
5°	1077.7	1071.7	1052.2	1026.0	1004.5	984.2	961.8	954.4	948.0	934.5	936.0
7.5°	1044.8	1034.3	1000.6	957.3	916.0	878.3	841.0	822.6	808.7	791.4	791.4
10°	1025.4	1009.0	957.3	894.2	828.6	773.4	717.8	684.4	660.0	637.7	636.2
12.5°	1024.5	999.6	927.5	840.5	750.5	673.0	597.0	545.8	509.4	483.2	480.6
15°	1032.4	997.5	902.7	790.3	677.0	576.2	482.2	417.1	370.8	341.4	338.4
17.5°	1039.4	995.2	875.8	737.6	605.4	482.6	378.2	310.7	266.9	243.1	240.6
20°	1045.8	989.7	841.6	682.0	526.4	395.2	295.8	241.0	212.3	198.9	197.3
22.5°	1055.2	984.7	805.7	619.3	448.8	321.6	244.0	204.8	189.3	182.9	181.9
25°	1070.6	985.2	771.0	555.2	377.7	267.9	211.2	187.0	178.4	173.9	173.9
27.5°	1093.0	991.1	736.6	490.1	317.6	231.1	191.9	177.4	172.0	168.5	167.5
30°	1125.8	1002.0	700.4	428.6	269.9	205.7	180.4	171.5	167.0	164.0	163.6
32.5°	1173.6	1021.5	662.1	372.2	233.6	187.9	172.0	166.5	163.1	160.5	160.1
35°	1244.6	1055.8	624.8	324.6	207.8	175.0	165.0	160.5	158.5	157.6	157.2
37.5°	1349.1	1110.9	589.5	287.4	190.8	166.5	158.1	155.5	154.6	154.6	154.6
40°	1480.3	1183.5	557.7	260.9	181.5	160.1	153.1	151.1	151.1	151.7	151.7
42.5°	1639.8	1274.4	530.4	243.1	175.9	155.5	149.5	148.6	148.1	148.1	148.6
45°	1825.1	1381.8	513.4	229.1	172.0	153.1	147.2	146.6	144.7	143.6	143.6
47.5°	2011.6	1496.7	512.4	221.1	167.0	150.1	144.7	144.7	140.6	138.6	139.2
50°	2185.5	1599.5	523.4	219.2	164.0	145.7	142.1	142.7	137.2	134.7	134.2
52.5°	2325.7	1678.0	536.8	221.7	164.0	141.7	137.6	140.2	134.2	131.2	130.7
55°	2434.1	1732.8	541.8	227.2	166.0	138.2	133.8	137.6	133.2	129.3	129.3
57.5°	2511.7	1750.2	520.4	229.7	169.1	137.6	129.7	137.2	134.7	129.7	129.7
60°	2483.3	1649.3	440.9	220.1	168.5	136.7	126.7	138.2	139.7	134.2	134.2
62.5°	2262.1	1379.8	353.9	198.9	160.1	133.2	123.3	137.2	143.1	141.2	140.2
65°	1841.6	1012.0	274.3	173.5	145.7	125.7	115.9	128.3	135.2	137.2	137.6
67.5°	1297.8	640.7	213.3	147.6	127.8	114.8	107.4	113.3	115.9	116.8	118.8
70°	709.7	346.9	169.5	124.2	109.4	103.9	98.5	98.9	97.9	96.9	97.9
72°	356.4	226.6	143.1	107.8	96.9	93.4	91.0	89.5	89.5	88.0	88.5
72.5°	306.7	210.8	138.2	103.9	94.0	91.0	88.9	87.5	87.0	86.0	86.6
75°	204.4	167.0	115.3	87.0	80.0	78.0	79.0	77.6	78.0	77.0	77.6
77.5°	165.0	143.6	97.9	73.5	68.7	65.7	67.6	68.1	69.1	68.1	67.6
80°	138.2	122.3	82.1	60.6	57.2	54.6	55.7	59.1	59.6	56.7	56.2
82.5°	89.5	98.5	64.6	47.2	43.7	42.7	45.3	48.7	49.7	45.8	44.7
85°	75.1	79.0	46.8	32.3	28.9	27.9	32.8	36.3	38.8	34.8	33.8
87.5°	20.9	38.8	22.8	15.4	12.9	12.9	16.0	18.9	22.4	22.8	22.8
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)