

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: P196069

Luminaire Tested: **NAV-AF-01-D-UNV-SL2-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196069
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24258)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-01-D-UNV-SL2-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 4000K, 1050mA LIGHTSQUARE WITH 16 LEDS EACH AND TYPE II SPILL
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5097.4 lumens
Efficiency: N/A
Efficacy: 86.4 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B1 - U0 - G2

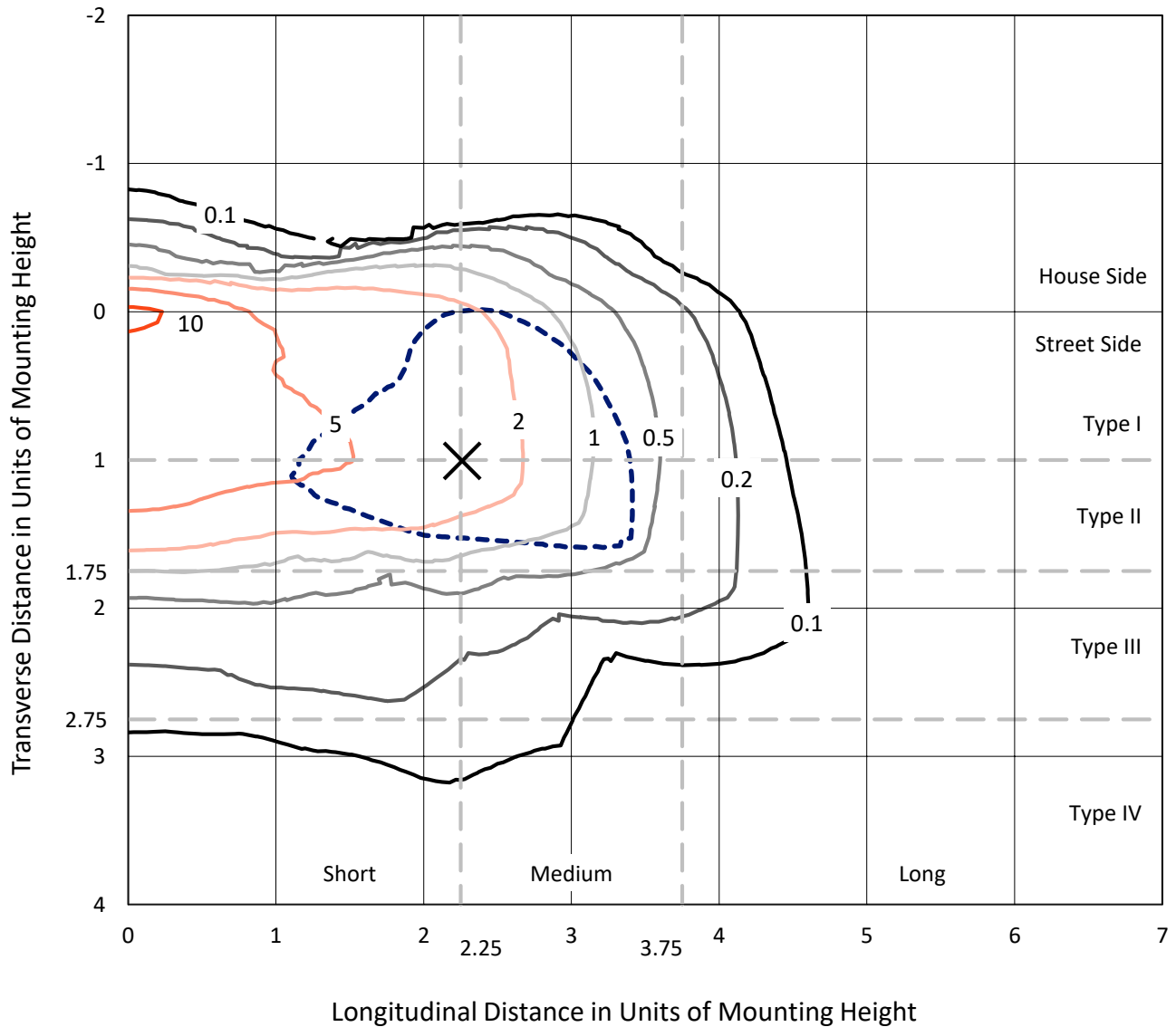
Input Watts (W): 59
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

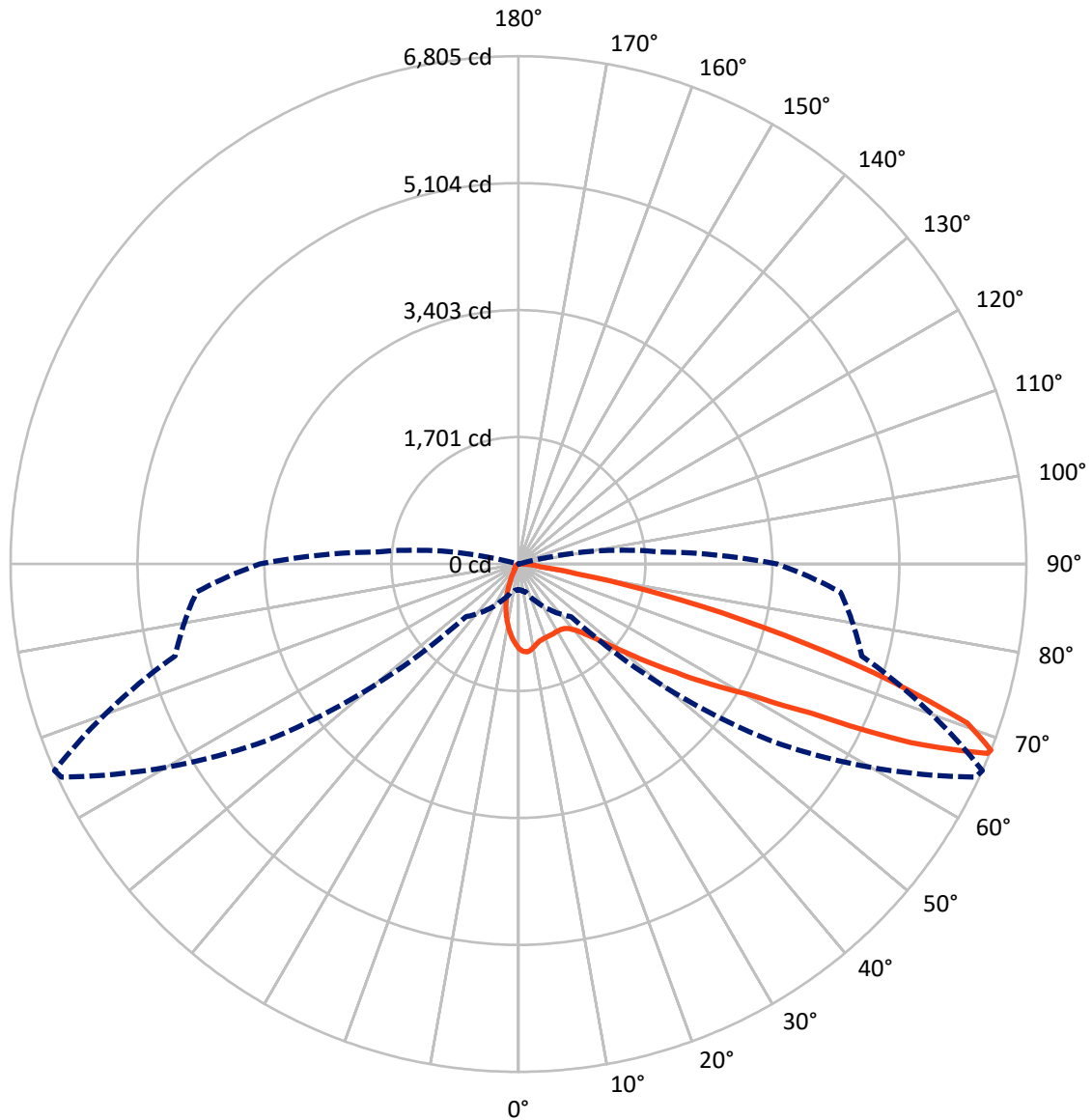
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 11.4 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 66-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	516.3	0.0	516.3
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	4581.1	0.0	4581.1
	% Fixture	89.9	0.0	89.9
Total	Lumens	5097.4	0.0	5097.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.1	1.8
10°-20°	200.3	3.9
20°-30°	290.3	5.7
30°-40°	444.4	8.7
40°-50°	760.0	14.9
50°-60°	1188.9	23.3
60°-70°	1369.0	26.9
70°-80°	685.1	13.4
80°-90°	66.3	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°	5097.4	100.0
0°-180°	5097.4	100.0



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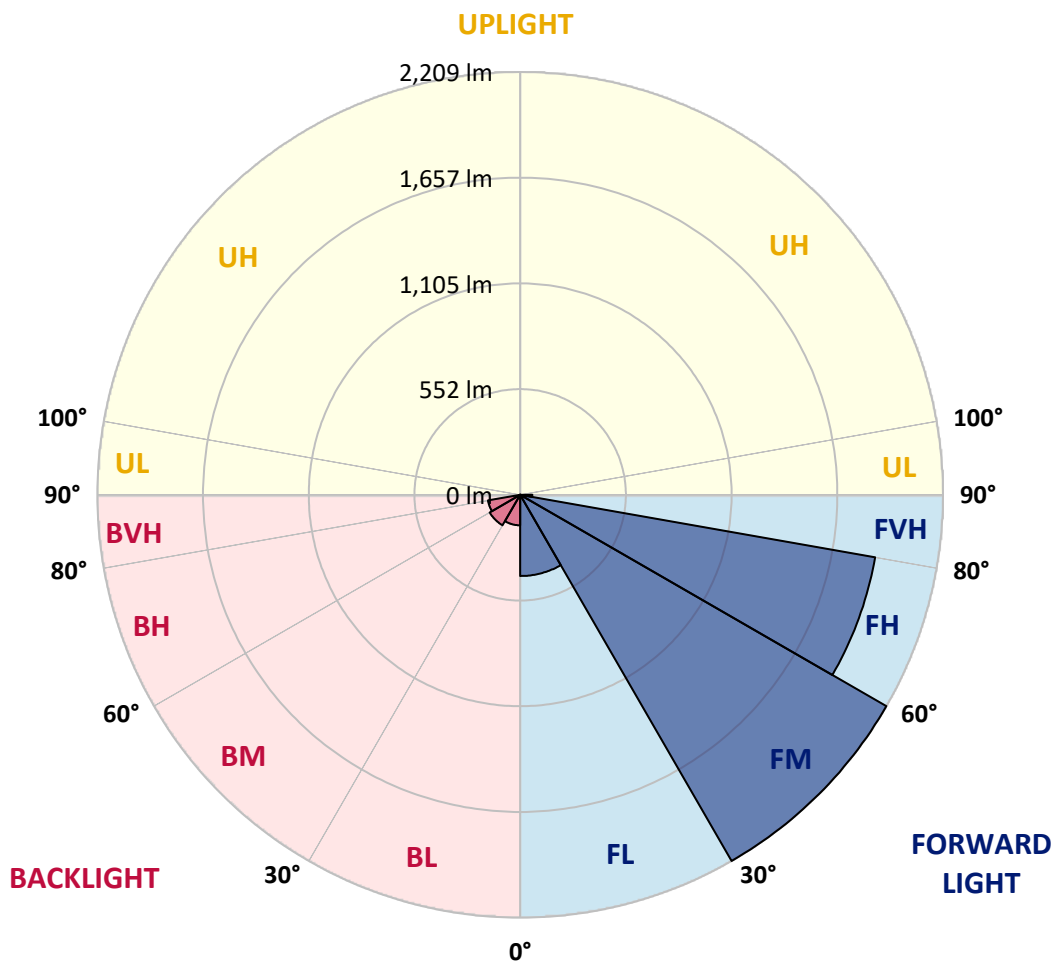
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	424.3	8.3			
FM (30°-60°)	2209.4	43.3			
FH (60°-80°)	1883.5	36.9			G2/5000
FVH (80°-90°)	63.8	1.3			G1/100
BL (0°-30°)	159.4	3.1	B1/500		
BM (30°-60°)	183.9	3.6	B0/220		
BH (60°-80°)	170.6	3.3	B1/500		G1/500
BVH (80°-90°)	2.5	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	1135.7	1135.7	1135.7	1135.7	1135.7	1135.7	1135.7	1135.7	1135.7	1135.7	1135.7
2.5°	1194.5	1195.3	1194.9	1196.0	1195.3	1189.3	1182.8	1169.2	1170.5	1152.9	1133.2
5°	1110.4	1117.3	1124.0	1130.9	1147.2	1161.7	1178.8	1182.8	1182.8	1167.7	1138.9
7.5°	1024.8	1025.2	1032.8	1042.0	1064.0	1090.5	1130.5	1166.5	1167.3	1171.3	1139.7
10°	960.3	962.4	967.6	977.5	999.6	1025.6	1070.4	1126.9	1131.3	1160.8	1131.7
12.5°	910.3	912.8	918.4	930.0	950.0	976.8	1024.0	1088.4	1094.5	1150.8	1129.2
15°	872.0	875.1	879.5	891.2	912.8	941.2	992.8	1062.8	1070.0	1146.8	1136.8
17.5°	855.9	855.9	855.5	863.6	885.2	914.0	968.0	1049.2	1058.4	1150.0	1149.7
20°	862.8	861.5	853.1	851.1	864.3	893.1	948.4	1040.4	1050.8	1156.0	1165.2
22.5°	898.8	896.3	877.6	861.9	857.9	877.2	935.2	1034.4	1046.8	1168.4	1186.1
25°	975.2	968.0	941.9	906.7	875.1	873.2	926.0	1031.2	1044.4	1182.8	1208.9
27.5°	1074.4	1072.5	1030.8	983.6	922.8	886.4	923.1	1028.8	1042.0	1193.3	1227.2
30°	1197.7	1198.5	1150.4	1088.8	996.8	923.5	932.0	1027.6	1041.2	1194.1	1235.3
32.5°	1324.9	1325.7	1285.7	1219.7	1098.0	987.6	956.8	1033.2	1045.7	1190.8	1234.9
35°	1447.4	1448.6	1424.6	1371.4	1233.3	1076.5	1003.6	1052.4	1061.2	1192.9	1234.1
37.5°	1602.2	1607.1	1577.4	1527.8	1403.0	1206.9	1080.0	1091.2	1098.4	1209.2	1240.1
40°	1866.4	1859.9	1775.1	1691.0	1587.0	1365.7	1190.5	1158.1	1160.4	1251.7	1262.9
42.5°	2174.1	2166.1	2020.8	1875.9	1776.3	1557.4	1331.7	1260.5	1260.1	1322.9	1312.5
45°	2438.9	2434.1	2281.3	2088.0	1986.0	1769.1	1505.8	1408.2	1403.4	1446.1	1403.0
47.5°	2627.0	2623.1	2507.4	2313.7	2228.5	2002.0	1723.1	1609.4	1599.4	1607.5	1549.8
50°	2645.5	2641.1	2600.6	2476.2	2511.8	2343.7	1991.6	1873.1	1860.3	1848.0	1771.9
52.5°	2473.4	2473.0	2494.2	2486.2	2710.3	2783.4	2320.9	2199.2	2184.1	2152.5	2076.8
55°	2121.6	2119.7	2200.1	2316.9	2705.9	3237.2	2823.1	2587.5	2567.4	2504.2	2405.0
57.5°	1550.2	1539.8	1707.9	1955.6	2515.7	3435.8	3620.6	3069.6	3036.4	2835.9	2683.1
60°	855.9	859.9	1076.0	1369.3	2065.6	3396.5	4354.5	3631.8	3544.6	3122.0	2968.0
62.5°	479.8	489.8	650.7	890.0	1316.9	3078.4	4748.2	4599.4	4389.3	3455.7	3328.1
65°	362.9	369.0	449.8	686.7	830.3	2151.3	4811.0	5952.3	5771.1	3961.6	3901.5
67.5°	341.8	346.6	386.2	569.4	756.3	1115.6	4338.1	6752.6	6775.4	4651.5	4345.7
68°	344.1	350.2	389.7	547.8	755.1	998.0	4136.4	6756.7	6805.1	4762.7	4330.5
70°	316.1	317.7	412.1	537.5	731.9	786.3	2992.3	6293.7	6380.5	4895.1	3931.1
72.5°	120.8	121.2	184.8	465.3	766.7	790.7	1507.4	4974.3	4978.7	4260.1	3064.8
75°	62.8	52.8	58.0	145.7	732.3	770.7	756.3	3396.5	3375.3	2881.1	1877.9
77.5°	43.2	36.8	38.8	50.4	304.5	770.3	546.3	1953.1	1948.7	1225.7	535.8
80°	24.4	21.2	23.2	42.5	106.8	723.1	509.0	839.5	791.2	215.3	86.8
82.5°	12.4	10.4	12.4	35.6	66.4	455.0	495.0	329.3	293.3	51.2	56.5
85°	3.2	3.2	6.0	24.9	41.2	149.2	443.8	237.7	213.7	22.4	40.0
87.5°	0.8	0.4	2.4	9.2	14.8	32.4	246.1	132.5	114.1	11.6	23.2
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°	1135.7	1135.7	1135.7	1135.7	1135.7	1135.7	1135.7	1135.7	1135.7	1135.7	1135.7
2.5°	1125.2	1114.0	1092.0	1067.2	1049.6	1030.4	1019.2	1005.6	995.2	986.0	992.8
5°	1121.3	1099.7	1050.8	995.9	950.0	905.9	873.2	841.9	818.4	803.5	809.6
7.5°	1110.8	1078.8	999.6	914.0	838.7	767.9	710.2	658.7	618.7	597.0	603.8
10°	1093.2	1048.0	941.5	822.8	717.5	617.5	531.8	455.0	396.9	369.7	376.1
12.5°	1080.4	1020.8	881.6	734.7	596.3	454.2	340.5	252.5	207.2	180.0	182.5
15°	1074.8	999.6	825.5	641.9	463.8	291.7	184.0	133.3	117.6	112.0	112.4
17.5°	1075.6	982.7	772.3	545.4	330.1	167.7	112.8	101.7	99.2	98.0	98.0
20°	1077.6	966.0	717.1	445.0	211.2	108.0	94.0	90.4	89.2	87.7	88.1
22.5°	1083.6	953.2	661.4	344.1	130.0	88.1	83.3	80.0	78.1	75.6	76.0
25°	1092.8	943.6	606.6	247.7	91.7	76.8	72.4	68.0	64.4	61.6	62.0
27.5°	1098.4	930.0	548.2	168.9	76.0	67.2	61.3	55.2	51.2	48.8	48.4
30°	1094.5	908.0	481.8	110.9	67.2	58.0	50.8	44.0	40.0	38.1	38.1
32.5°	1083.6	879.5	408.6	80.8	59.6	50.0	41.2	35.2	32.4	31.2	31.6
35°	1071.2	850.0	330.5	68.4	53.6	42.5	33.7	28.8	27.6	27.2	27.2
37.5°	1064.4	824.3	255.7	62.0	48.0	35.2	27.6	24.9	23.6	23.6	23.6
40°	1072.1	804.8	189.2	57.2	42.5	29.3	23.2	21.2	20.8	20.8	20.8
42.5°	1104.5	797.9	138.4	53.2	36.8	24.4	20.0	18.4	18.0	18.4	18.4
45°	1167.7	812.7	104.9	49.2	31.6	20.0	17.2	16.0	16.0	16.4	16.4
47.5°	1274.9	850.7	86.0	45.2	26.4	16.8	14.8	14.0	14.0	14.4	14.4
50°	1441.3	921.2	77.2	40.8	22.0	14.4	12.4	12.0	12.0	12.4	12.8
52.5°	1694.3	1055.2	72.8	36.4	18.0	12.0	10.4	10.0	10.4	10.8	10.8
55°	1975.5	1226.9	67.6	32.0	15.2	10.0	8.4	8.4	8.8	9.6	9.6
57.5°	2237.7	1392.5	62.8	26.4	13.2	8.0	6.9	6.9	7.6	8.4	8.4
60°	2514.6	1555.0	56.5	21.2	11.3	6.4	5.6	5.6	6.9	7.6	8.0
62.5°	2856.7	1743.9	48.0	16.8	8.8	4.8	4.0	5.2	6.4	7.6	7.6
65°	3351.3	1978.8	37.6	13.2	6.9	3.6	3.2	4.8	6.0	7.2	7.6
67.5°	3531.0	1948.7	28.4	10.8	5.2	2.8	2.8	4.4	6.0	7.2	7.2
68°	3465.3	1883.2	27.2	10.4	4.8	2.8	2.8	4.4	6.0	7.2	7.2
70°	3019.5	1539.4	22.4	8.0	4.0	2.4	2.4	4.0	6.0	6.9	7.2
72.5°	2260.9	1022.8	19.2	5.2	3.6	2.4	2.0	4.0	5.6	6.9	6.9
75°	1296.9	424.5	16.4	4.0	3.2	2.0	2.0	3.6	5.6	6.9	6.9
77.5°	366.5	99.2	13.2	3.2	2.8	2.0	1.6	3.6	5.2	6.4	6.4
80°	67.2	29.6	10.4	2.8	2.4	2.0	1.6	3.6	5.2	6.4	6.4
82.5°	44.4	14.0	7.6	2.8	2.4	2.0	1.6	3.2	4.8	6.0	6.0
85°	33.2	10.0	4.8	2.8	2.4	2.0	1.6	3.2	4.8	6.0	6.0
87.5°	18.4	4.4	3.6	3.2	2.8	2.0	1.6	2.8	4.4	5.6	5.6
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)