

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: P196058

Luminaire Tested: **NAV-AF-02-D-UNV-SL2-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196058
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-02-D-UNV-SL2-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 4000K, 615mA LIGHTSQUARES 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: 6697.3 lumens
Efficiency: N/A
Efficacy: 101.5 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B1 - U0 - G2

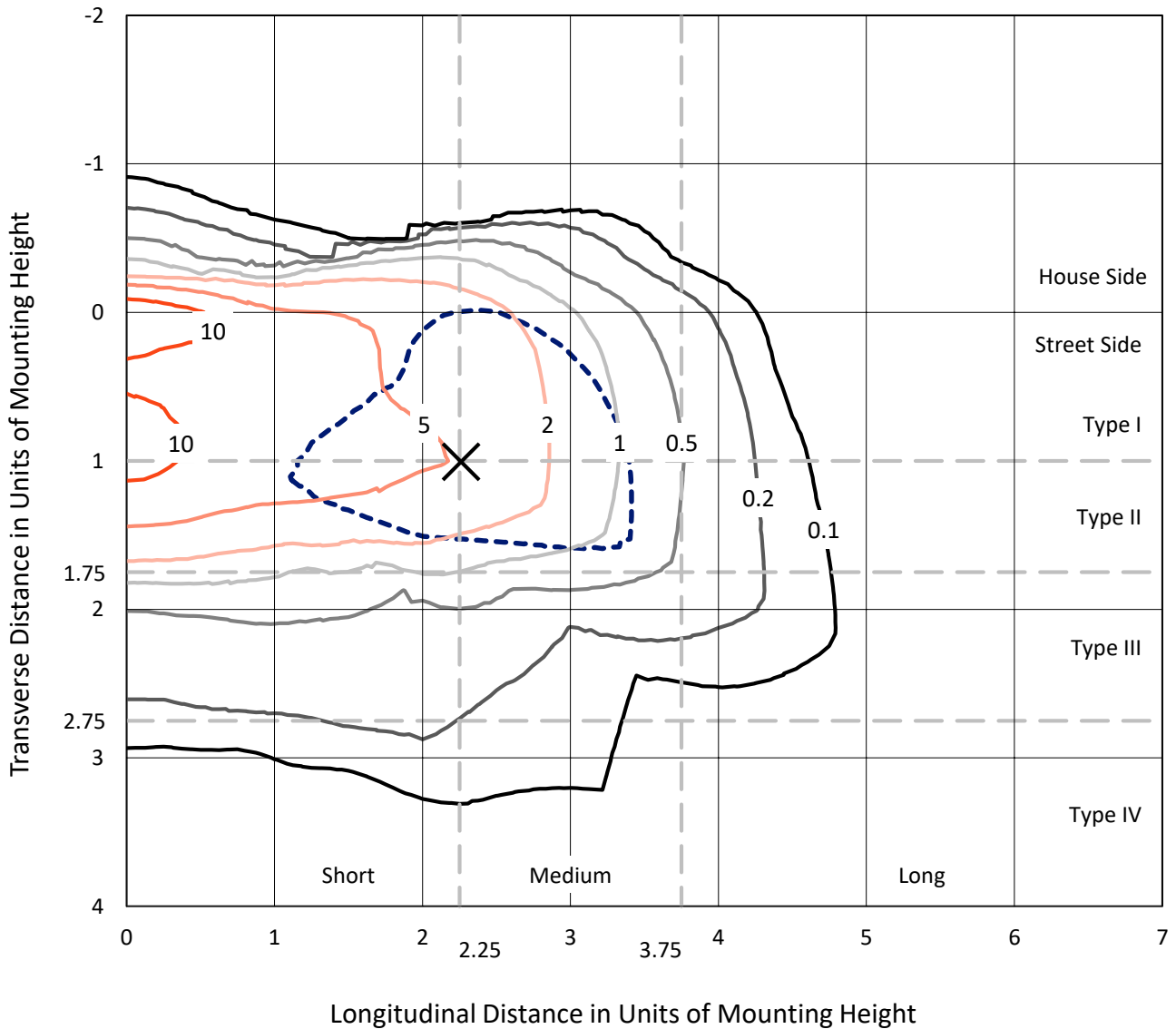
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

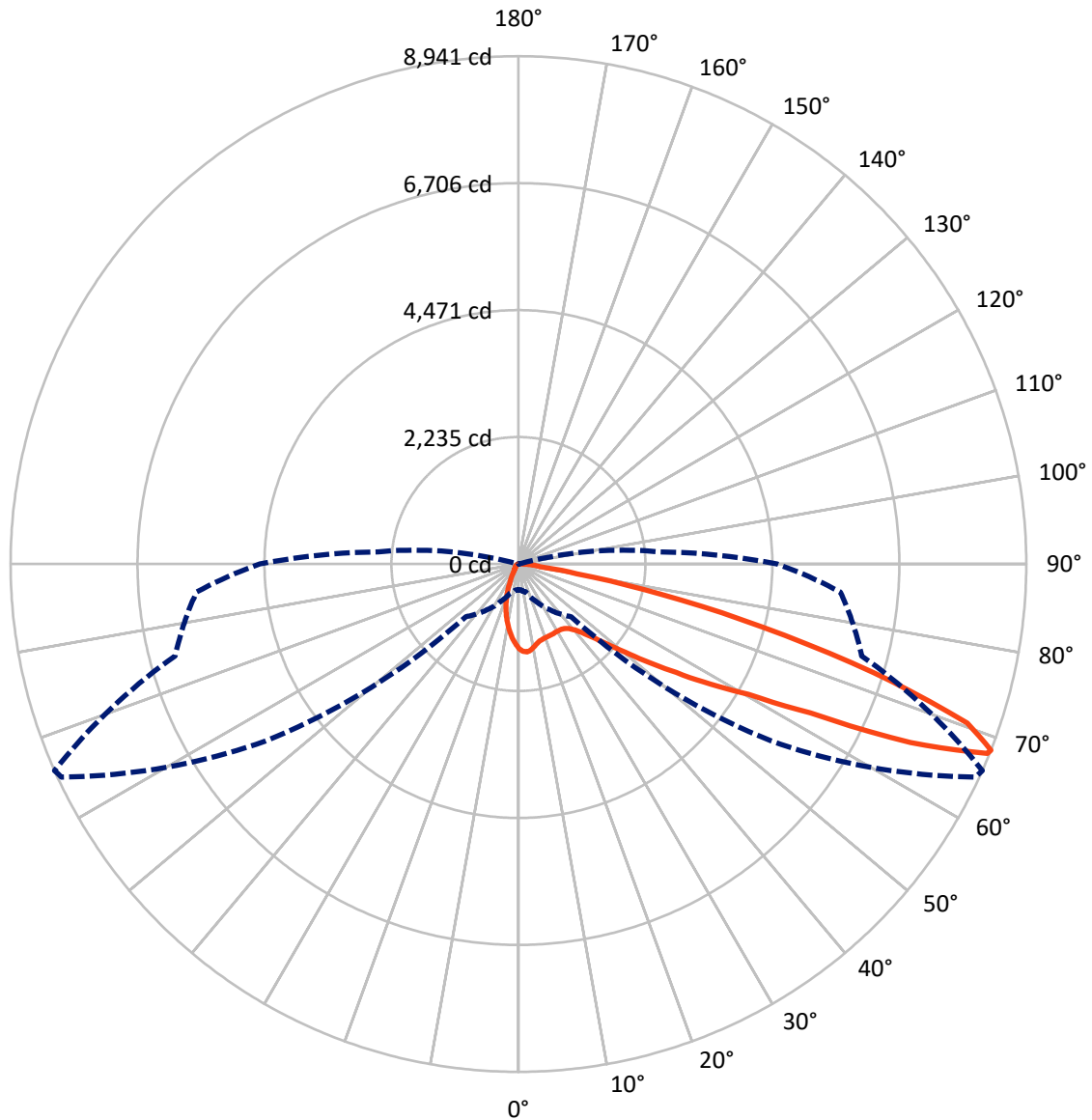
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 14.9 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	678.4	0.0	678.4
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	6018.9	0.0	6018.9
	% Fixture	89.9	0.0	89.9
Total	Lumens	6697.3	0.0	6697.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.3	1.8
10°-20°	263.2	3.9
20°-30°	381.4	5.7
30°-40°	583.8	8.7
40°-50°	998.6	14.9
50°-60°	1562.1	23.3
60°-70°	1798.7	26.9
70°-80°	900.1	13.4
80°-90°	87.2	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°	6697.3	100.0
0°-180°	6697.3	100.0



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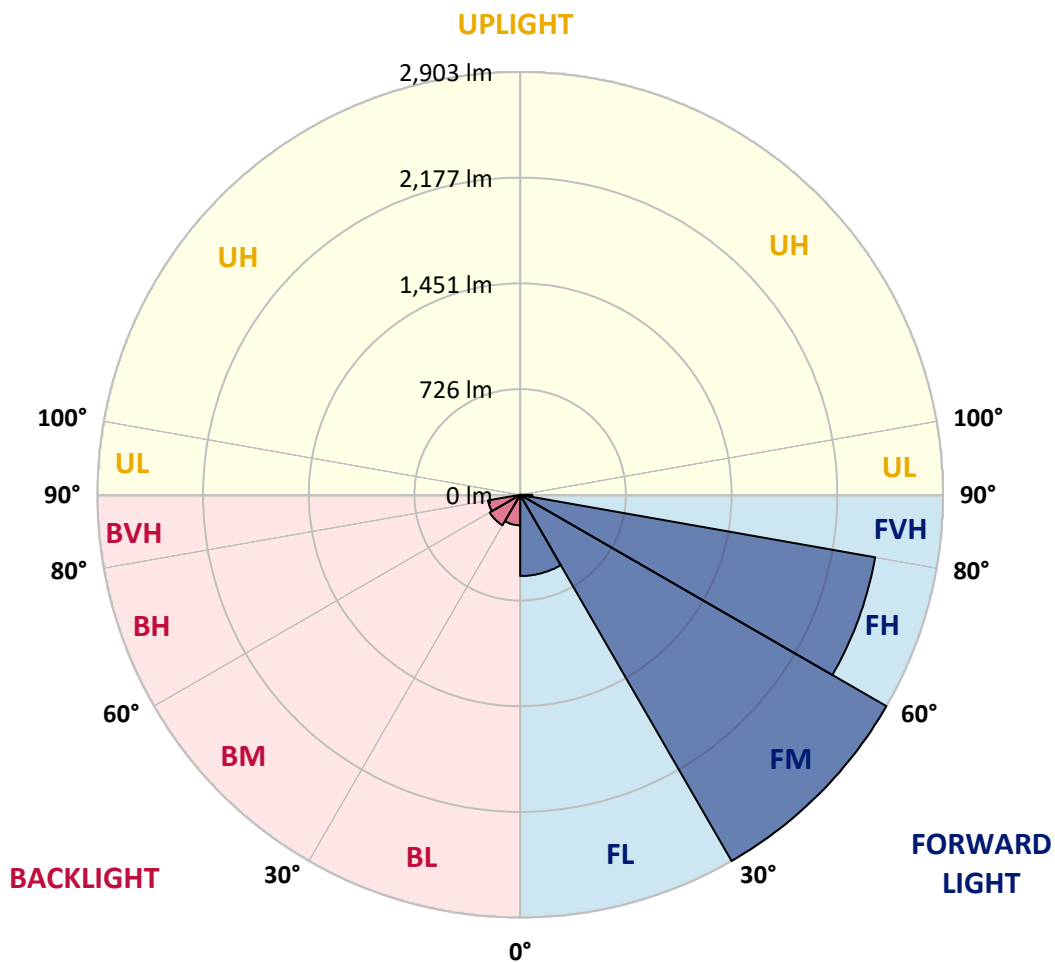
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	557.5	8.3			
FM	(30°-60°)	2902.9	43.3			
FH	(60°-80°)	2474.6	36.9			G2/5000
FVH	(80°-90°)	83.9	1.3			G1/100
BL	(0°-30°)	209.4	3.1	B1/500		
BM	(30°-60°)	241.6	3.6	B1/1000		
BH	(60°-80°)	224.1	3.3	B1/500		G1/500
BVH	(80°-90°)	3.3	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°	1492.1	1492.1	1492.1	1492.1	1492.1	1492.1	1492.1	1492.1	1492.1	1492.1	1492.1
2.5°	1569.4	1570.4	1569.9	1571.5	1570.4	1562.6	1554.2	1536.3	1537.8	1514.7	1488.9
5°	1458.9	1467.9	1476.8	1485.7	1507.3	1526.2	1548.8	1554.2	1554.2	1534.1	1496.3
7.5°	1346.4	1347.0	1356.9	1369.0	1398.0	1432.6	1485.2	1532.6	1533.6	1538.9	1497.3
10°	1261.8	1264.5	1271.2	1284.4	1313.4	1347.5	1406.4	1480.5	1486.3	1525.2	1486.9
12.5°	1196.1	1199.2	1206.6	1221.8	1248.1	1283.4	1345.4	1430.1	1438.0	1512.0	1483.7
15°	1145.6	1149.8	1155.6	1170.9	1199.2	1236.5	1304.4	1396.4	1405.8	1506.8	1493.7
17.5°	1124.6	1124.6	1124.0	1134.6	1163.0	1200.8	1271.8	1378.5	1390.6	1511.0	1510.5
20°	1133.5	1131.9	1120.9	1118.3	1135.6	1173.5	1246.1	1367.0	1380.7	1518.9	1530.9
22.5°	1180.8	1177.7	1153.0	1132.5	1127.2	1152.5	1228.7	1359.1	1375.4	1535.2	1558.4
25°	1281.2	1271.8	1237.7	1191.3	1149.8	1147.2	1216.6	1354.9	1372.2	1554.2	1588.3
27.5°	1411.7	1409.0	1354.4	1292.3	1212.4	1164.5	1212.9	1351.7	1369.0	1567.8	1612.5
30°	1573.6	1574.6	1511.5	1430.6	1309.7	1213.4	1224.5	1350.1	1368.0	1568.8	1623.0
32.5°	1740.8	1741.8	1689.2	1602.5	1442.7	1297.5	1257.1	1357.5	1373.8	1564.6	1622.5
35°	1901.7	1903.2	1871.7	1801.7	1620.4	1414.2	1318.6	1382.7	1394.3	1567.3	1621.4
37.5°	2105.1	2111.5	2072.5	2007.3	1843.3	1585.7	1419.0	1433.8	1443.2	1588.8	1629.4
40°	2452.1	2443.7	2332.2	2221.8	2085.2	1794.4	1564.1	1521.5	1524.7	1644.6	1659.2
42.5°	2856.4	2845.8	2655.1	2464.7	2333.9	2046.2	1749.7	1656.2	1655.6	1738.1	1724.5
45°	3204.5	3198.2	2997.3	2743.3	2609.3	2324.3	1978.4	1850.1	1843.8	1900.0	1843.3
47.5°	3451.5	3446.3	3294.4	3039.9	2927.9	2630.3	2263.9	2114.5	2101.4	2112.0	2036.3
50°	3475.8	3470.0	3416.9	3253.4	3300.1	3079.3	2616.7	2461.0	2444.2	2428.0	2328.0
52.5°	3249.7	3249.2	3277.0	3266.5	3560.9	3657.2	3049.4	2889.5	2869.6	2828.0	2728.6
55°	2787.5	2784.9	2890.6	3044.1	3555.2	4253.3	3709.2	3399.5	3373.2	3290.1	3159.8
57.5°	2036.8	2023.1	2243.9	2569.3	3305.4	4514.1	4757.0	4033.1	3989.4	3726.0	3525.2
60°	1124.6	1129.8	1413.7	1799.2	2713.9	4462.6	5721.3	4771.8	4657.1	4101.9	3899.5
62.5°	630.3	643.5	854.9	1169.2	1730.2	4044.6	6238.6	6043.0	5767.0	4540.4	4372.7
65°	476.9	484.8	591.0	902.2	1091.0	2826.4	6321.1	7820.6	7582.4	5205.0	5126.1
67.5°	449.0	455.3	507.4	748.2	993.7	1465.8	5699.7	8872.1	8902.0	6111.3	5709.7
68°	452.1	460.0	512.1	719.7	992.1	1311.2	5434.7	8877.4	8941.0	6257.5	5689.7
70°	415.3	417.5	541.6	706.0	961.6	1033.1	3931.6	8269.0	8383.1	6431.5	5165.0
72.5°	158.8	159.3	242.8	611.4	1007.3	1038.9	1980.5	6535.6	6541.5	5597.2	4026.7
75°	82.6	69.4	76.2	191.4	962.1	1012.6	993.7	4462.6	4434.7	3785.4	2467.4
77.5°	56.8	48.4	51.0	66.3	400.1	1012.1	717.7	2566.2	2560.4	1610.4	704.0
80°	32.1	27.8	30.5	55.8	140.3	950.0	668.8	1103.0	1039.4	282.8	114.1
82.5°	16.3	13.7	16.3	46.7	87.3	597.8	650.4	432.7	385.3	67.3	74.2
85°	4.2	4.2	7.9	32.6	54.1	196.1	583.1	312.3	280.8	29.5	52.6
87.5°	1.0	0.5	3.2	12.1	19.4	42.6	323.4	174.0	149.9	15.2	30.5
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°	1492.1	1492.1	1492.1	1492.1	1492.1	1492.1	1492.1	1492.1	1492.1	1492.1	1492.1
2.5°	1478.4	1463.7	1434.8	1402.2	1379.0	1353.8	1339.0	1321.2	1307.5	1295.5	1304.4
5°	1473.2	1444.8	1380.7	1308.6	1248.1	1190.3	1147.2	1106.2	1075.1	1055.7	1063.6
7.5°	1459.4	1417.4	1313.4	1200.8	1102.0	1008.9	933.2	865.4	812.8	784.4	793.4
10°	1436.3	1377.0	1237.1	1081.0	942.6	811.2	698.7	597.8	521.5	485.8	494.2
12.5°	1419.5	1341.2	1158.2	965.3	783.4	596.7	447.4	331.7	272.3	236.6	239.8
15°	1412.2	1313.4	1084.6	843.3	609.4	383.3	241.8	175.0	154.6	147.2	147.7
17.5°	1413.2	1291.3	1014.7	716.6	433.7	220.2	148.2	133.5	130.4	128.8	128.8
20°	1415.9	1269.2	942.1	584.6	277.6	142.0	123.6	118.9	117.2	115.2	115.7
22.5°	1423.7	1252.3	869.1	452.1	170.8	115.7	109.4	105.2	102.5	99.3	99.9
25°	1435.8	1239.7	797.1	325.4	120.4	101.0	95.1	89.4	84.6	80.9	81.5
27.5°	1443.2	1221.8	720.3	221.9	99.9	88.3	80.4	72.5	67.3	64.1	63.6
30°	1438.0	1193.0	633.0	145.7	88.3	76.2	66.8	57.8	52.6	49.9	49.9
32.5°	1423.7	1155.6	536.8	106.2	78.4	65.7	54.1	46.2	42.6	41.0	41.5
35°	1407.5	1116.7	434.2	89.9	70.5	55.8	44.2	37.8	36.3	35.7	35.7
37.5°	1398.5	1083.1	335.9	81.5	63.1	46.2	36.3	32.6	31.0	31.0	31.0
40°	1408.5	1057.3	248.7	75.2	55.8	38.4	30.5	27.8	27.3	27.3	27.3
42.5°	1451.1	1048.3	181.9	70.0	48.4	32.1	26.3	24.1	23.6	24.1	24.1
45°	1534.1	1067.8	137.8	64.7	41.5	26.3	22.6	21.1	21.1	21.6	21.6
47.5°	1675.1	1117.8	113.0	59.4	34.7	22.1	19.4	18.4	18.4	18.9	18.9
50°	1893.8	1210.3	101.5	53.6	28.9	18.9	16.3	15.8	15.8	16.3	16.8
52.5°	2226.0	1386.4	95.6	47.9	23.6	15.8	13.7	13.1	13.7	14.2	14.2
55°	2595.6	1612.0	88.9	42.0	19.9	13.1	11.0	11.0	11.6	12.6	12.6
57.5°	2940.0	1829.6	82.6	34.7	17.4	10.5	8.9	8.9	10.0	11.0	11.0
60°	3303.8	2043.0	74.2	27.8	14.7	8.4	7.4	7.4	8.9	10.0	10.5
62.5°	3753.3	2291.2	63.1	22.1	11.6	6.3	5.2	6.9	8.4	10.0	10.0
65°	4403.2	2599.8	49.4	17.4	8.9	4.7	4.2	6.3	7.9	9.5	10.0
67.5°	4639.3	2560.4	37.3	14.2	6.9	3.7	3.7	5.8	7.9	9.5	9.5
68°	4553.1	2474.2	35.7	13.7	6.3	3.7	3.7	5.8	7.9	9.5	9.5
70°	3967.3	2022.6	29.5	10.5	5.2	3.2	3.2	5.2	7.9	8.9	9.5
72.5°	2970.5	1343.9	25.3	6.9	4.7	3.2	2.7	5.2	7.4	8.9	8.9
75°	1703.9	557.8	21.6	5.2	4.2	2.7	2.7	4.7	7.4	8.9	8.9
77.5°	481.6	130.4	17.4	4.2	3.7	2.7	2.1	4.7	6.9	8.4	8.4
80°	88.3	38.9	13.7	3.7	3.2	2.7	2.1	4.7	6.9	8.4	8.4
82.5°	58.3	18.4	10.0	3.7	3.2	2.7	2.1	4.2	6.3	7.9	7.9
85°	43.7	13.1	6.3	3.7	3.2	2.7	2.1	4.2	6.3	7.9	7.9
87.5°	24.1	5.8	4.7	4.2	3.7	2.7	2.1	3.7	5.8	7.4	7.4
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)