

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: P195578

Luminaire Tested: **NAV-AF-02-D-UNV-SL2-7050-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195578
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-SL2-7050-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5000K, 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: 6547 lumens
Efficiency: N/A
Efficacy: 99.2 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

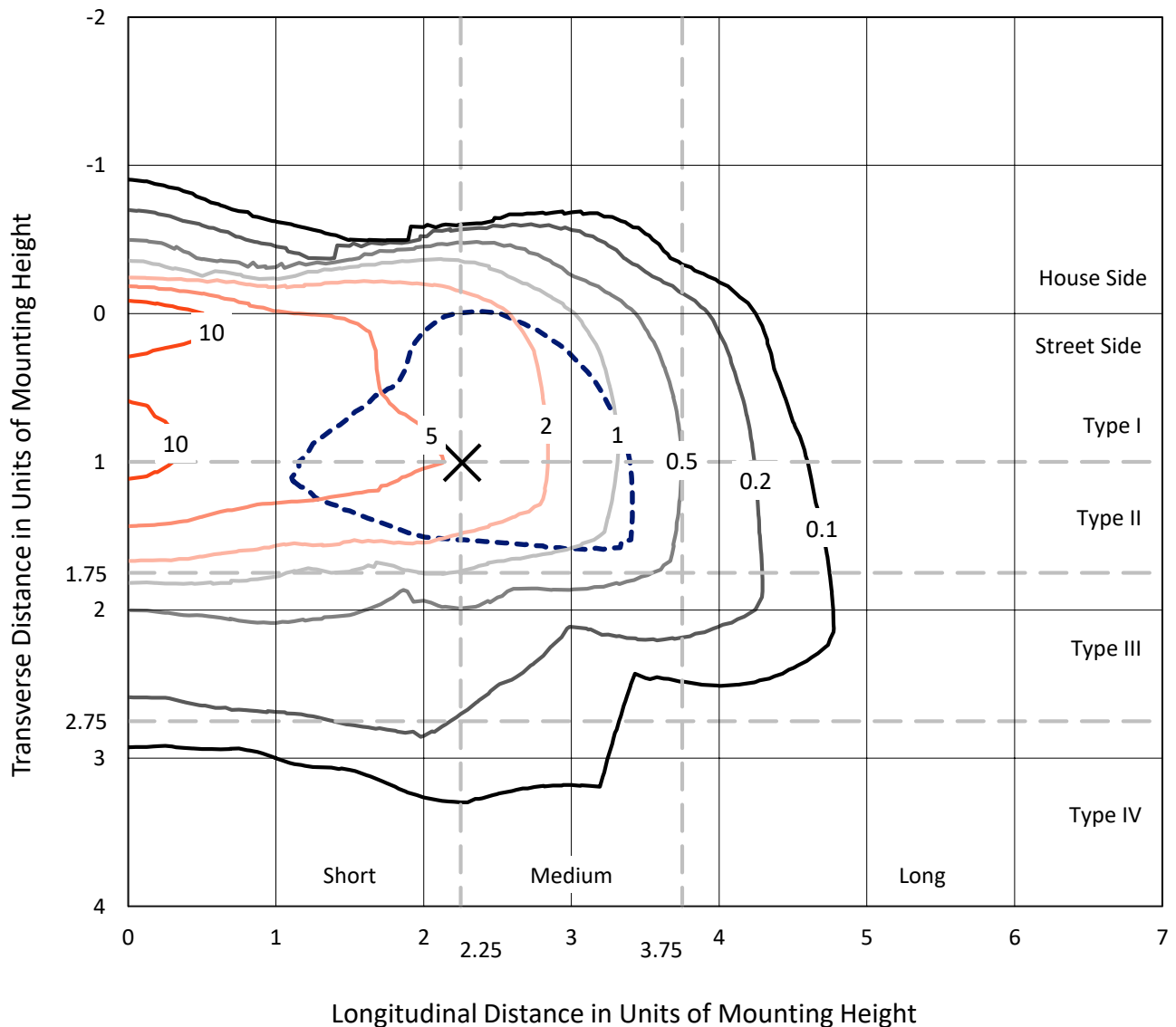


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

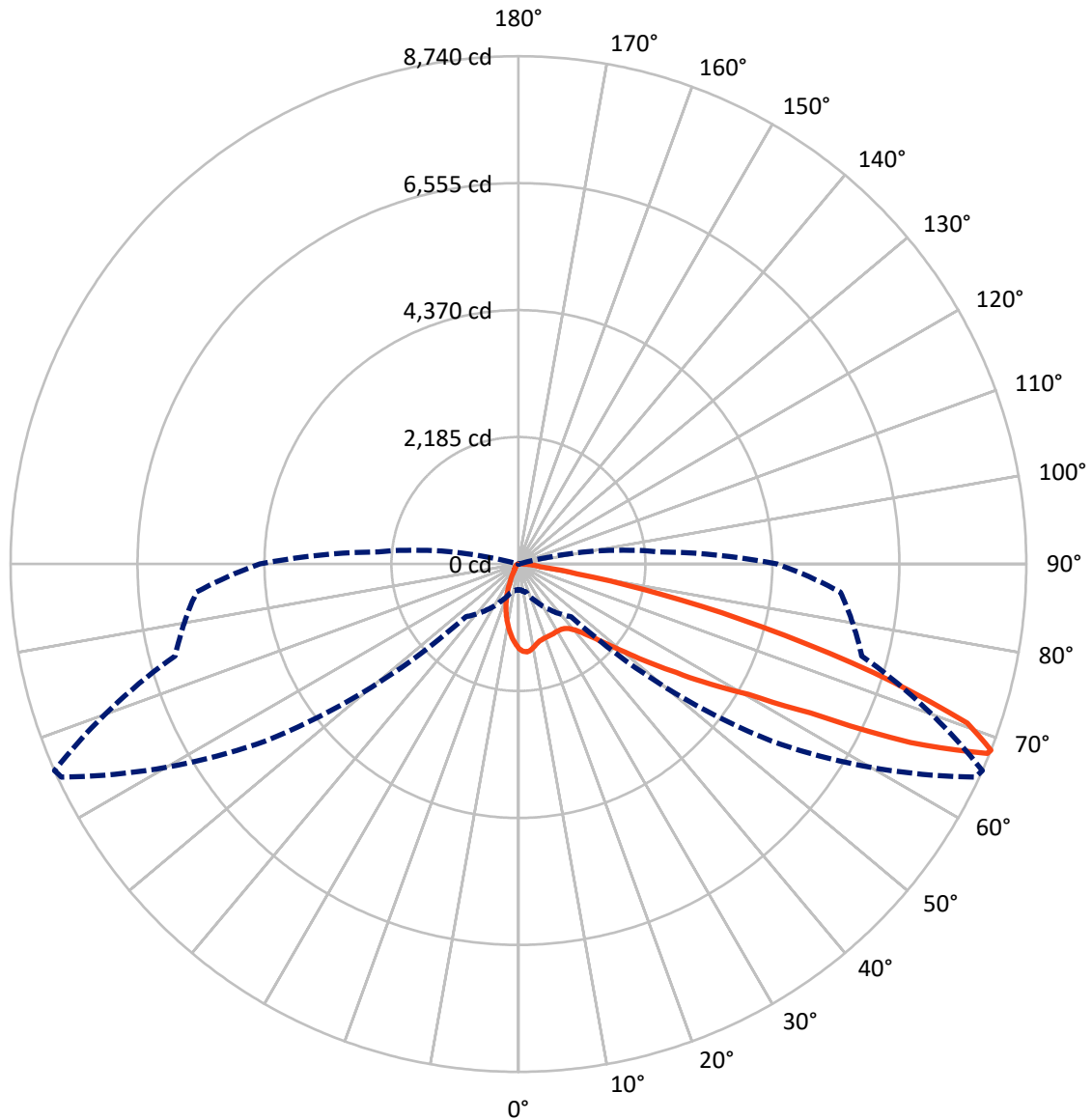


Based on 10 foot mounting height. Maximum calculated value = 14.6 fc
 Type II - Medium - Semi-Cutoff

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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	663.1	0.0	663.1
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	5883.9	0.0	5883.9
	% Fixture	89.9	0.0	89.9
Total	Lumens	6547.0	0.0	6547.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.6	1.8
10°-20°	257.3	3.9
20°-30°	372.8	5.7
30°-40°	570.7	8.7
40°-50°	976.2	14.9
50°-60°	1527.0	23.3
60°-70°	1758.3	26.9
70°-80°	879.9	13.4
80°-90°	85.2	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°	6547.0	100.0
0°-180°	6547.0	100.0



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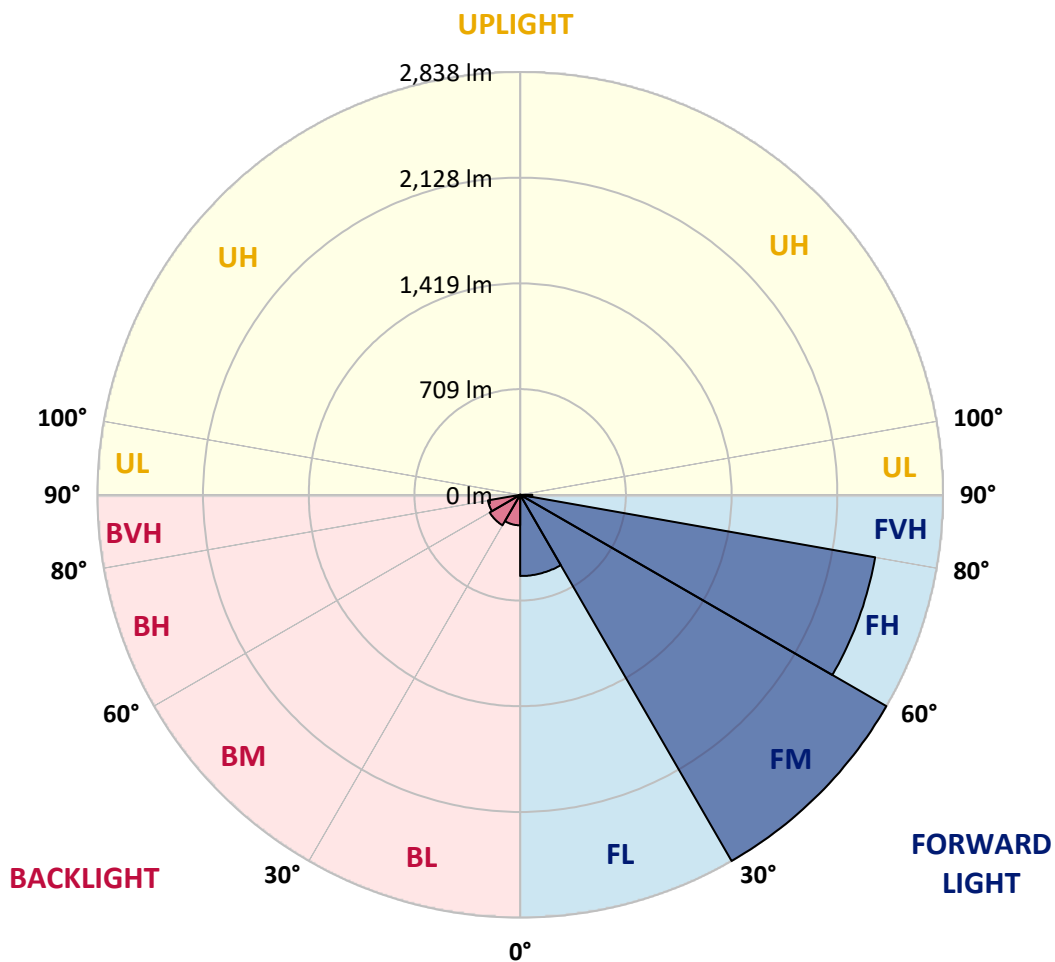
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	545.0	8.3			
FM	(30°-60°)	2837.8	43.3			
FH	(60°-80°)	2419.1	36.9			G2/5000
FVH	(80°-90°)	82.0	1.3			G1/100
BL	(0°-30°)	204.7	3.1	B1/500		
BM	(30°-60°)	236.1	3.6	B1/1000		
BH	(60°-80°)	219.1	3.3	B1/500		G1/500
BVH	(80°-90°)	3.2	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°	1458.6	1458.6	1458.6	1458.6	1458.6	1458.6	1458.6	1458.6	1458.6	1458.6	1458.6
2.5°	1534.2	1535.2	1534.7	1536.2	1535.2	1527.5	1519.3	1501.8	1503.3	1480.7	1455.5
5°	1426.2	1435.0	1443.7	1452.4	1473.5	1492.0	1514.1	1519.3	1519.3	1499.7	1462.7
7.5°	1316.2	1316.8	1326.5	1338.3	1366.6	1400.5	1451.9	1498.2	1499.2	1504.4	1463.7
10°	1233.5	1236.1	1242.7	1255.6	1283.9	1317.3	1374.8	1447.3	1453.0	1491.0	1453.5
12.5°	1169.3	1172.3	1179.5	1194.4	1220.1	1254.6	1315.2	1398.0	1405.7	1478.1	1450.4
15°	1119.9	1124.0	1129.7	1144.6	1172.3	1208.8	1275.1	1365.1	1374.3	1473.0	1460.2
17.5°	1099.4	1099.4	1098.8	1109.1	1136.9	1173.9	1243.3	1347.6	1359.4	1477.1	1476.6
20°	1108.1	1106.5	1095.8	1093.2	1110.1	1147.2	1218.1	1336.3	1349.7	1484.8	1496.6
22.5°	1154.3	1151.3	1127.1	1107.1	1101.9	1126.6	1201.1	1328.6	1344.5	1500.8	1523.4
25°	1252.5	1243.3	1209.9	1164.6	1124.0	1121.5	1189.3	1324.5	1341.4	1519.3	1552.7
27.5°	1380.0	1377.4	1324.0	1263.3	1185.2	1138.4	1185.7	1321.4	1338.3	1532.6	1576.3
30°	1538.3	1539.3	1477.6	1398.5	1280.3	1186.2	1197.0	1319.8	1337.3	1533.6	1586.6
32.5°	1701.7	1702.7	1651.3	1566.5	1410.3	1268.4	1228.9	1327.0	1343.0	1529.5	1586.1
35°	1859.0	1860.5	1829.7	1761.3	1584.0	1382.5	1289.0	1351.7	1363.0	1532.1	1585.0
37.5°	2057.9	2064.1	2026.0	1962.3	1801.9	1550.1	1387.2	1401.6	1410.8	1553.2	1592.8
40°	2397.1	2388.9	2279.9	2172.0	2038.4	1754.1	1529.0	1487.4	1490.5	1607.7	1622.0
42.5°	2792.3	2782.0	2595.5	2409.4	2281.5	2000.3	1710.4	1619.0	1618.5	1699.1	1685.8
45°	3132.6	3126.4	2930.1	2681.8	2550.8	2272.2	1934.0	1808.6	1802.4	1857.4	1801.9
47.5°	3374.1	3369.0	3220.5	2971.7	2862.2	2571.3	2213.1	2067.1	2054.3	2064.6	1990.6
50°	3397.8	3392.1	3340.2	3180.4	3226.1	3010.2	2558.0	2405.8	2389.4	2373.5	2275.8
52.5°	3176.8	3176.3	3203.5	3193.2	3481.0	3575.1	2981.0	2824.7	2805.2	2764.6	2667.4
55°	2725.0	2722.4	2825.7	2975.8	3475.4	4157.9	3626.0	3323.2	3297.5	3216.3	3088.9
57.5°	1991.1	1977.7	2193.6	2511.7	3231.2	4412.8	4650.3	3942.6	3899.9	3642.4	3446.1
60°	1099.4	1104.5	1382.0	1758.8	2653.0	4362.5	5592.9	4664.7	4552.6	4009.9	3812.0
62.5°	616.2	629.1	835.7	1143.0	1691.4	3953.9	6098.6	5907.4	5637.6	4438.5	4274.6
65°	466.2	473.9	577.7	882.0	1066.5	2763.0	6179.3	7645.1	7412.3	5088.2	5011.1
67.5°	438.9	445.1	496.0	731.4	971.4	1432.9	5571.8	8673.0	8702.3	5974.2	5581.6
68°	442.0	449.7	500.6	703.6	969.8	1281.8	5312.8	8678.2	8740.4	6117.1	5562.0
70°	406.0	408.1	529.4	690.2	940.0	1009.9	3843.4	8083.5	8195.0	6287.2	5049.1
72.5°	155.2	155.7	237.4	597.7	984.7	1015.6	1936.1	6389.0	6394.7	5471.6	3936.4
75°	80.7	67.8	74.5	187.1	940.5	989.9	971.4	4362.5	4335.2	3700.5	2412.0
77.5°	55.5	47.3	49.9	64.8	391.1	989.4	701.6	2508.6	2503.0	1574.3	688.2
80°	31.4	27.2	29.8	54.5	137.2	928.7	653.8	1078.3	1016.1	276.5	111.5
82.5°	15.9	13.4	15.9	45.7	85.3	584.4	635.8	423.0	376.7	65.8	72.5
85°	4.1	4.1	7.7	31.9	52.9	191.7	570.0	305.3	274.5	28.8	51.4
87.5°	1.0	0.5	3.1	11.8	19.0	41.6	316.1	170.1	146.5	14.9	29.8
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°	1458.6	1458.6	1458.6	1458.6	1458.6	1458.6	1458.6	1458.6	1458.6	1458.6	1458.6
2.5°	1445.2	1430.9	1402.6	1370.7	1348.1	1323.4	1309.0	1291.6	1278.2	1266.4	1275.1
5°	1440.1	1412.4	1349.7	1279.2	1220.1	1163.6	1121.5	1081.4	1051.0	1032.0	1039.7
7.5°	1426.7	1385.6	1283.9	1173.9	1077.3	986.3	912.3	846.0	794.6	766.8	775.6
10°	1404.1	1346.1	1209.3	1056.7	921.5	793.0	683.0	584.4	509.8	474.9	483.1
12.5°	1387.7	1311.1	1132.2	943.6	765.8	583.3	437.4	324.3	266.2	231.3	234.4
15°	1380.5	1283.9	1060.3	824.4	595.7	374.7	236.4	171.1	151.1	143.9	144.4
17.5°	1381.5	1262.3	991.9	700.5	424.0	215.3	144.9	130.5	127.5	125.9	125.9
20°	1384.1	1240.7	921.0	571.5	271.4	138.8	120.8	116.2	114.6	112.6	113.1
22.5°	1391.8	1224.2	849.6	442.0	167.0	113.1	106.9	102.8	100.2	97.1	97.7
25°	1403.6	1211.9	779.2	318.1	117.7	98.7	93.0	87.4	82.7	79.1	79.7
27.5°	1410.8	1194.4	704.1	216.9	97.7	86.3	78.6	70.9	65.8	62.7	62.2
30°	1405.7	1166.2	618.8	142.4	86.3	74.5	65.3	56.5	51.4	48.8	48.8
32.5°	1391.8	1129.7	524.8	103.8	76.6	64.2	52.9	45.2	41.6	40.1	40.6
35°	1375.9	1091.6	424.5	87.9	68.9	54.5	43.2	37.0	35.5	34.9	34.9
37.5°	1367.1	1058.8	328.4	79.7	61.7	45.2	35.5	31.9	30.3	30.3	30.3
40°	1376.9	1033.6	243.1	73.5	54.5	37.5	29.8	27.2	26.7	26.7	26.7
42.5°	1418.5	1024.8	177.8	68.4	47.3	31.4	25.7	23.6	23.1	23.6	23.6
45°	1499.7	1043.8	134.7	63.2	40.6	25.7	22.1	20.6	20.6	21.1	21.1
47.5°	1637.5	1092.7	110.5	58.1	33.9	21.6	19.0	18.0	18.0	18.5	18.5
50°	1851.3	1183.1	99.2	52.4	28.3	18.5	15.9	15.4	15.4	15.9	16.4
52.5°	2176.1	1355.3	93.5	46.8	23.1	15.4	13.4	12.8	13.4	13.9	13.9
55°	2537.4	1575.8	86.9	41.1	19.5	12.8	10.8	10.8	11.3	12.3	12.3
57.5°	2874.0	1788.6	80.7	33.9	17.0	10.3	8.7	8.7	9.8	10.8	10.8
60°	3229.7	1997.2	72.5	27.2	14.4	8.2	7.2	7.2	8.7	9.8	10.3
62.5°	3669.1	2239.8	61.7	21.6	11.3	6.2	5.1	6.7	8.2	9.8	9.8
65°	4304.4	2541.5	48.3	17.0	8.7	4.6	4.1	6.2	7.7	9.3	9.8
67.5°	4535.2	2503.0	36.5	13.9	6.7	3.6	3.6	5.7	7.7	9.3	9.3
68°	4450.9	2418.7	34.9	13.4	6.2	3.6	3.6	5.7	7.7	9.3	9.3
70°	3878.3	1977.2	28.8	10.3	5.1	3.1	3.1	5.1	7.7	8.7	9.3
72.5°	2903.9	1313.7	24.7	6.7	4.6	3.1	2.6	5.1	7.2	8.7	8.7
75°	1665.7	545.3	21.1	5.1	4.1	2.6	2.6	4.6	7.2	8.7	8.7
77.5°	470.8	127.5	17.0	4.1	3.6	2.6	2.1	4.6	6.7	8.2	8.2
80°	86.3	38.0	13.4	3.6	3.1	2.6	2.1	4.6	6.7	8.2	8.2
82.5°	57.0	18.0	9.8	3.6	3.1	2.6	2.1	4.1	6.2	7.7	7.7
85°	42.7	12.8	6.2	3.6	3.1	2.6	2.1	4.1	6.2	7.7	7.7
87.5°	23.6	5.7	4.6	4.1	3.6	2.6	2.1	3.6	5.7	7.2	7.2
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)