

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: P196093

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196093
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24257)
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
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 4000K, 1050mA LIGHTSQUARE WITH 16 LEDS EACH AND TYPE II SPILL
LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6126.5 lumens
Efficiency: N/A
Efficacy: 103.8 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

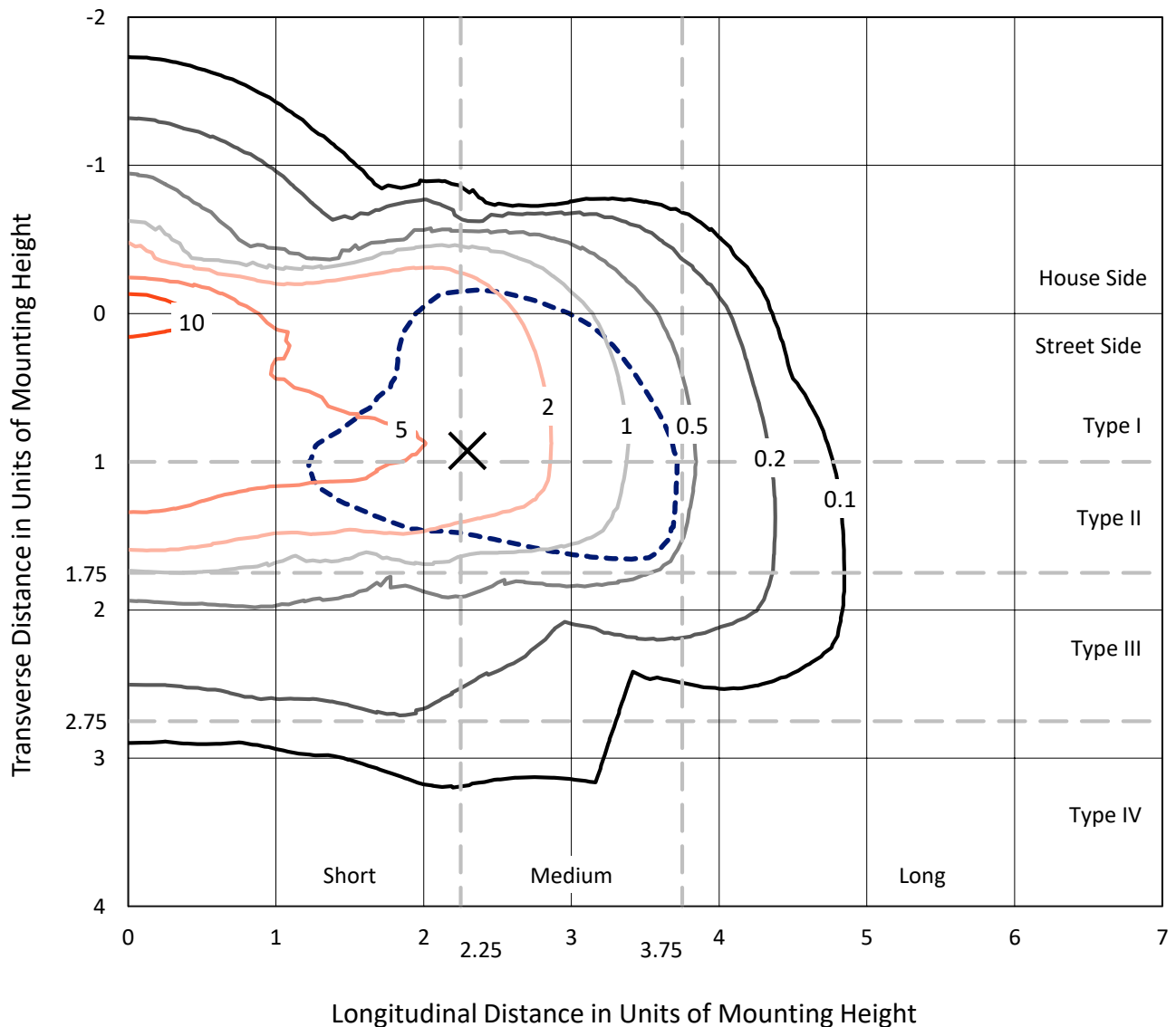


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Iso-Footcandle Lines of Horizontal Illumination

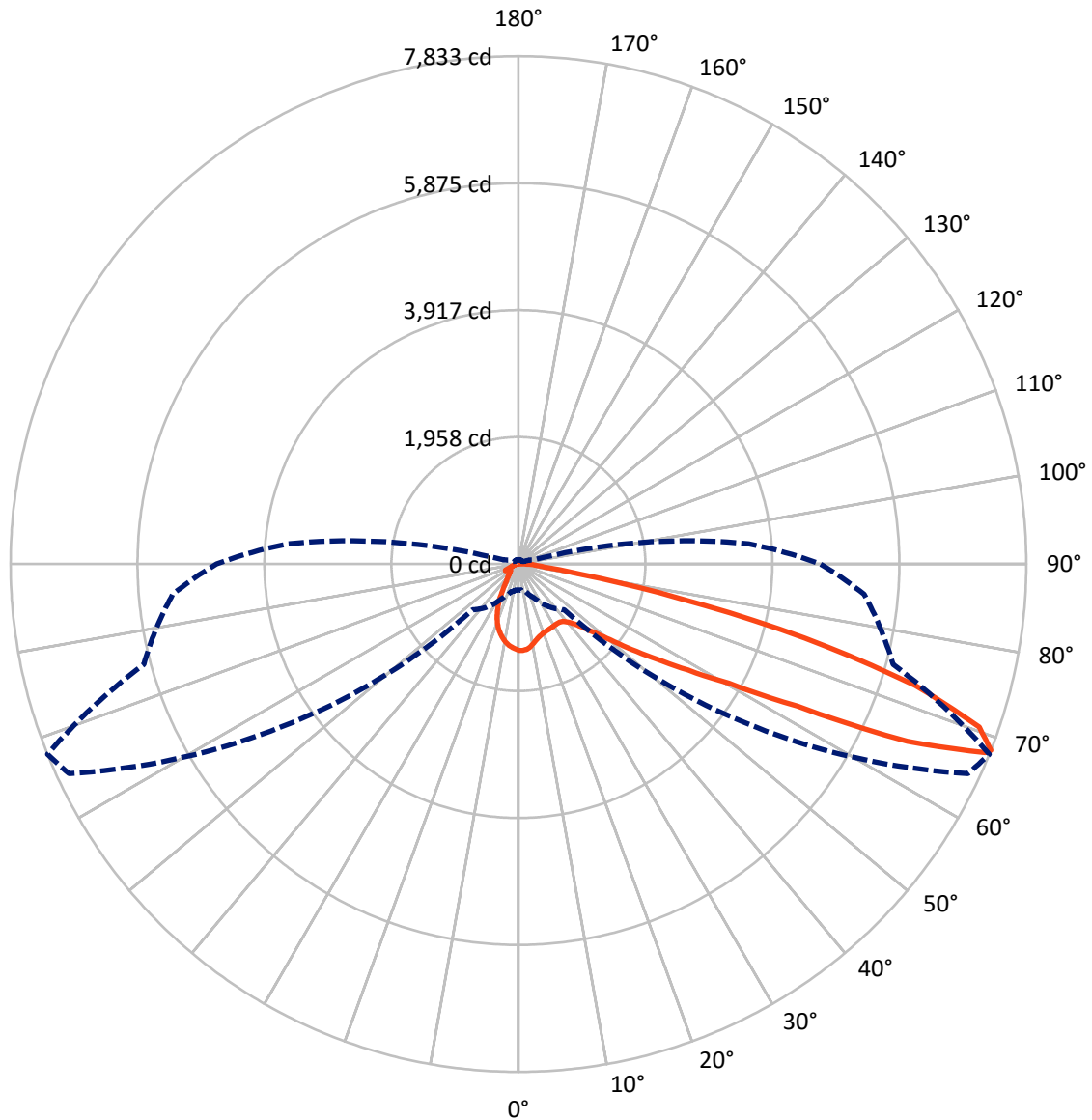
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 13.3 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



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

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1002.3	0.0	1002.3
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	5124.2	0.0	5124.2
	% Fixture	83.6	0.0	83.6
Total	Lumens	6126.5	0.0	6126.5
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	114.2	1.9
10°-20°	264.9	4.3
20°-30°	358.3	5.8
30°-40°	505.2	8.2
40°-50°	830.7	13.6
50°-60°	1287.7	21.0
60°-70°	1669.6	27.3
70°-80°	958.1	15.6
80°-90°	137.8	2.2
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°	6126.5	100.0
0°-180°	6126.5	100.0



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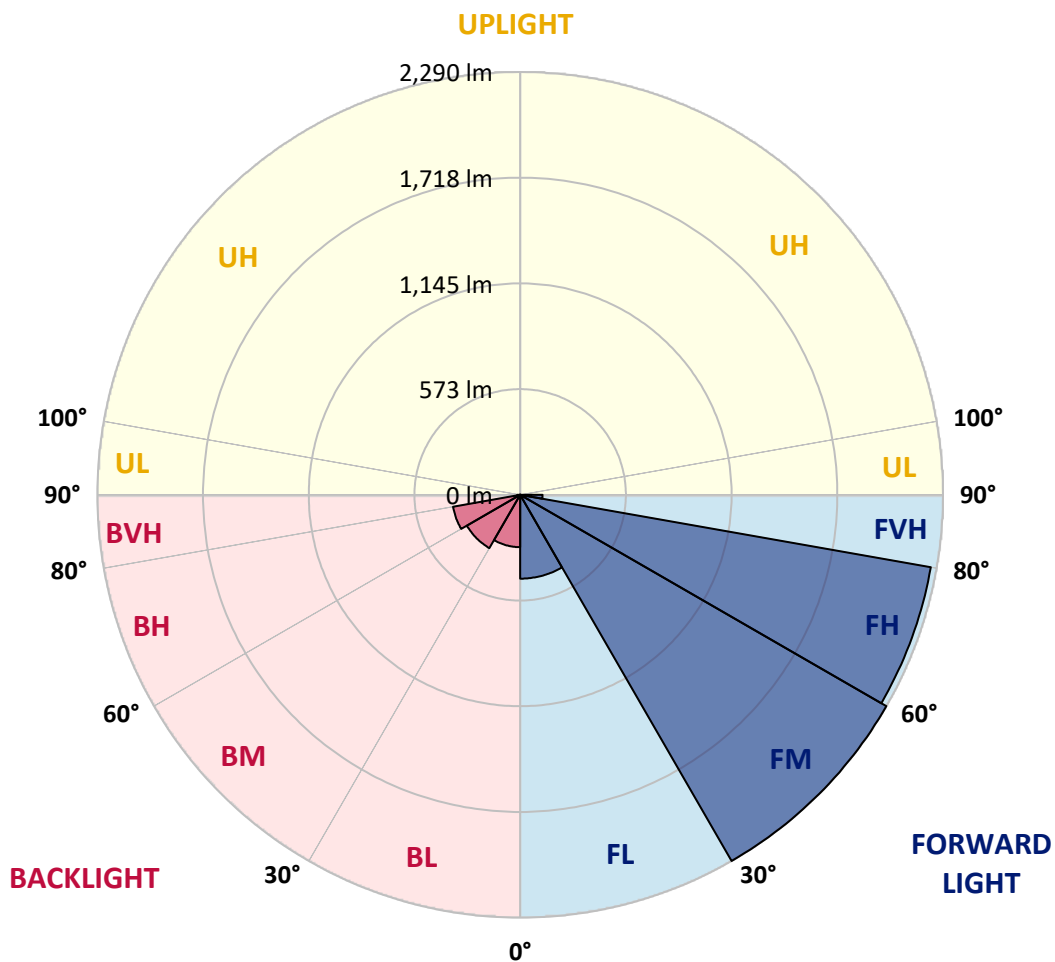
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	454.1	7.4			
FM (30°-60°)	2290.2	37.4			
FH (60°-80°)	2258.5	36.9			G2/5000
FVH (80°-90°)	121.4	2.0			G2/225
BL (0°-30°)	283.4	4.6	B1/500		
BM (30°-60°)	333.4	5.4	B1/1000		
BH (60°-80°)	369.1	6.0	B1/500		G1/500
BVH (80°-90°)	16.4	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 II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	1333.1	1333.1	1333.1	1333.1	1333.1	1333.1	1333.1	1333.1	1333.1	1333.1	1333.1
2.5°	1297.4	1307.8	1307.8	1315.4	1322.3	1327.9	1332.7	1332.7	1332.7	1329.4	1326.7
5°	1160.9	1175.0	1177.0	1196.2	1221.4	1252.2	1286.7	1317.0	1323.1	1334.2	1338.6
7.5°	1066.1	1070.5	1078.1	1091.4	1117.0	1155.0	1209.0	1277.1	1293.4	1328.6	1347.0
10°	998.9	1002.5	1008.9	1022.1	1045.4	1079.7	1132.9	1221.4	1248.6	1311.0	1347.4
12.5°	949.7	952.5	958.5	970.5	994.1	1024.9	1079.3	1171.4	1205.0	1293.4	1353.1
15°	911.2	916.1	920.9	932.4	956.5	986.1	1041.4	1135.0	1171.4	1279.4	1363.5
17.5°	896.0	898.5	899.3	905.2	926.9	956.9	1012.1	1109.4	1146.9	1268.3	1371.5
20°	905.6	906.0	898.0	894.1	906.4	934.1	987.7	1090.2	1128.5	1258.2	1374.6
22.5°	947.7	947.7	926.9	909.3	900.8	918.1	971.3	1077.0	1118.6	1250.7	1374.6
25°	1027.8	1024.1	991.6	956.9	919.6	912.5	960.9	1068.6	1110.9	1246.6	1369.5
27.5°	1132.9	1129.7	1088.5	1037.0	969.7	924.4	957.3	1061.7	1103.4	1240.6	1358.3
30°	1261.0	1258.2	1211.4	1143.8	1044.5	962.5	965.7	1056.9	1097.3	1230.6	1339.5
32.5°	1388.7	1387.1	1349.9	1280.6	1147.8	1026.9	987.7	1056.1	1094.1	1218.6	1316.6
35°	1517.1	1517.1	1494.3	1435.9	1286.7	1123.7	1033.7	1070.9	1100.2	1212.2	1297.0
37.5°	1706.9	1699.2	1656.8	1596.4	1461.5	1249.4	1108.2	1102.1	1123.4	1223.0	1290.7
40°	2000.6	1978.6	1872.5	1770.8	1652.4	1410.3	1217.0	1162.6	1175.4	1259.9	1305.9
42.5°	2308.0	2273.1	2132.6	1970.2	1849.7	1608.8	1359.9	1260.6	1260.3	1331.1	1354.3
45°	2571.7	2553.7	2401.6	2195.5	2075.1	1832.1	1540.4	1406.3	1391.9	1441.5	1447.5
47.5°	2724.9	2713.0	2621.3	2434.0	2342.4	2095.8	1769.3	1608.4	1581.2	1610.8	1601.6
50°	2682.5	2694.1	2667.8	2572.1	2629.7	2466.4	2061.0	1885.3	1833.7	1863.3	1840.9
52.5°	2459.2	2490.5	2514.0	2532.4	2795.0	2962.3	2427.6	2231.2	2188.3	2183.1	2161.5
55°	2057.1	2106.7	2181.0	2316.4	2750.6	3360.5	3067.9	2649.3	2586.8	2554.1	2562.5
57.5°	1399.9	1475.1	1635.6	1893.0	2519.6	3530.1	4014.8	3189.6	3083.9	2967.1	2994.3
60°	771.2	834.0	1024.9	1284.2	1992.6	3504.9	4854.0	4067.7	3735.1	3425.2	3481.3
62.5°	499.1	512.7	654.7	877.3	1223.0	3094.3	5320.3	5535.2	4830.4	4029.6	4108.5
65°	401.0	410.6	480.3	707.6	852.0	1990.6	5341.0	7057.5	6592.9	4850.8	4853.2
67.5°	391.8	396.2	436.6	595.1	799.2	1083.7	4616.7	7657.8	7765.4	5820.1	5351.5
68°	397.4	402.6	443.4	576.6	798.8	998.9	4266.9	7648.6	7833.0	5982.2	5351.5
70°	350.6	357.0	452.2	596.7	764.8	858.9	2921.9	7242.4	7539.4	6354.8	5077.7
72.5°	183.3	178.1	223.7	471.1	860.8	894.9	1543.5	6050.7	6397.1	5885.3	4387.0
75°	142.9	130.0	125.3	186.1	757.2	928.0	896.4	4300.5	4562.3	4242.5	2932.3
77.5°	134.4	118.9	109.7	110.1	333.4	965.7	725.2	2530.9	2530.9	2023.8	935.7
80°	108.0	93.6	87.7	100.0	160.9	890.1	756.8	1153.4	983.7	523.0	257.7
82.5°	71.2	63.6	64.0	81.2	122.0	594.3	876.5	569.5	427.8	231.7	151.7
85°	45.2	38.8	43.3	56.9	91.2	264.9	867.7	395.8	283.4	130.0	75.6
87.5°	22.8	17.6	21.6	29.7	55.6	76.0	714.3	353.3	210.1	54.0	41.2
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°	1333.1	1333.1	1333.1	1333.1	1333.1	1333.1	1333.1	1333.1	1333.1	1333.1	1333.1
2.5°	1326.7	1317.9	1313.5	1306.2	1297.4	1288.6	1282.7	1279.8	1278.3	1279.0	1278.6
5°	1336.3	1324.6	1305.9	1279.0	1251.4	1222.2	1199.8	1182.6	1171.8	1168.6	1167.8
7.5°	1343.4	1326.7	1291.5	1242.6	1195.4	1144.2	1100.6	1065.7	1042.1	1031.3	1030.9
10°	1342.3	1320.6	1265.0	1193.0	1123.7	1048.5	980.1	921.7	879.2	858.9	858.1
12.5°	1343.4	1313.9	1232.7	1135.0	1035.7	928.0	826.4	735.6	672.3	642.3	641.1
15°	1348.2	1306.6	1199.4	1070.1	932.8	780.8	635.6	521.5	463.8	444.3	444.3
17.5°	1347.8	1294.6	1160.9	994.9	810.8	607.1	433.8	363.4	357.8	375.8	378.6
20°	1339.9	1275.4	1111.3	905.6	667.6	420.2	294.1	284.2	329.0	378.6	384.2
22.5°	1327.5	1250.7	1054.2	802.0	500.6	273.7	226.9	242.1	303.0	364.6	373.4
25°	1310.3	1220.6	988.5	681.5	333.0	196.9	189.2	208.1	250.9	292.2	298.5
27.5°	1285.0	1182.6	916.9	551.1	212.5	162.0	164.9	178.1	196.5	214.1	217.7
30°	1253.4	1138.1	838.8	406.6	161.3	144.8	149.7	157.6	165.7	176.9	179.3
32.5°	1221.4	1092.9	757.6	279.4	140.9	135.6	140.5	144.8	151.7	159.3	160.9
35°	1192.6	1050.9	673.9	194.9	132.1	129.7	132.1	134.8	141.7	149.2	150.1
37.5°	1171.8	1016.5	586.7	154.1	126.8	124.5	125.6	126.8	134.8	146.1	147.3
40°	1169.0	993.7	498.3	138.5	122.9	119.7	118.9	119.7	130.0	142.9	144.0
42.5°	1196.2	994.9	411.8	132.1	119.7	116.1	112.8	114.5	123.7	133.7	134.4
45°	1260.6	1023.0	337.0	129.3	116.8	114.1	109.3	110.1	114.5	119.7	120.5
47.5°	1374.2	1084.1	279.8	127.7	114.5	112.0	106.1	103.6	104.0	106.9	106.9
50°	1556.0	1186.6	244.9	126.0	112.4	108.0	101.3	96.5	95.2	96.9	97.3
52.5°	1826.9	1362.3	228.1	122.9	108.8	102.8	95.2	90.4	88.5	90.0	90.0
55°	2193.1	1642.9	220.1	118.5	104.4	96.5	89.6	85.6	84.1	85.2	85.2
57.5°	2610.5	2007.4	233.7	112.4	98.8	89.6	84.8	82.0	80.8	82.0	82.4
60°	3106.3	2484.4	327.3	104.9	92.9	83.7	80.8	79.3	78.5	79.7	79.7
62.5°	3765.5	3119.2	506.7	98.8	86.4	78.1	77.2	76.4	75.6	76.8	76.8
65°	4477.0	3696.6	521.5	95.2	80.8	73.2	73.7	73.7	72.8	74.1	74.1
67.5°	4703.5	3646.6	291.3	90.8	74.1	68.4	70.1	70.1	69.7	70.8	70.5
68°	4655.6	3567.3	253.7	89.6	72.8	67.2	68.8	69.3	68.8	70.1	69.7
70°	4297.7	3132.0	166.8	82.9	67.6	63.2	65.7	66.1	65.7	67.2	66.8
72.5°	3547.8	2349.2	123.3	72.4	61.3	58.0	60.5	60.9	61.3	62.8	62.4
75°	2253.2	1297.4	97.3	61.6	54.8	52.1	54.4	55.6	56.5	58.8	57.6
77.5°	617.1	393.8	78.9	52.4	47.3	46.0	47.7	49.2	50.0	52.8	50.8
80°	216.1	174.1	65.7	44.4	39.2	38.8	40.4	42.0	42.9	45.2	42.9
82.5°	131.2	113.6	52.4	34.8	30.8	30.4	32.4	34.1	34.8	34.8	33.2
85°	68.4	60.0	38.5	24.4	21.2	20.0	23.6	25.6	26.0	25.6	24.4
87.5°	38.5	34.1	20.5	11.6	9.6	10.0	12.4	15.2	16.4	16.0	15.2
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)