

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: P195613

Luminaire Tested: **NAV-AF-01-D-UNV-SL2-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195613
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-SL2-7050
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 5000K, 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: 5989 lumens
Efficiency: N/A
Efficacy: 101.5 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

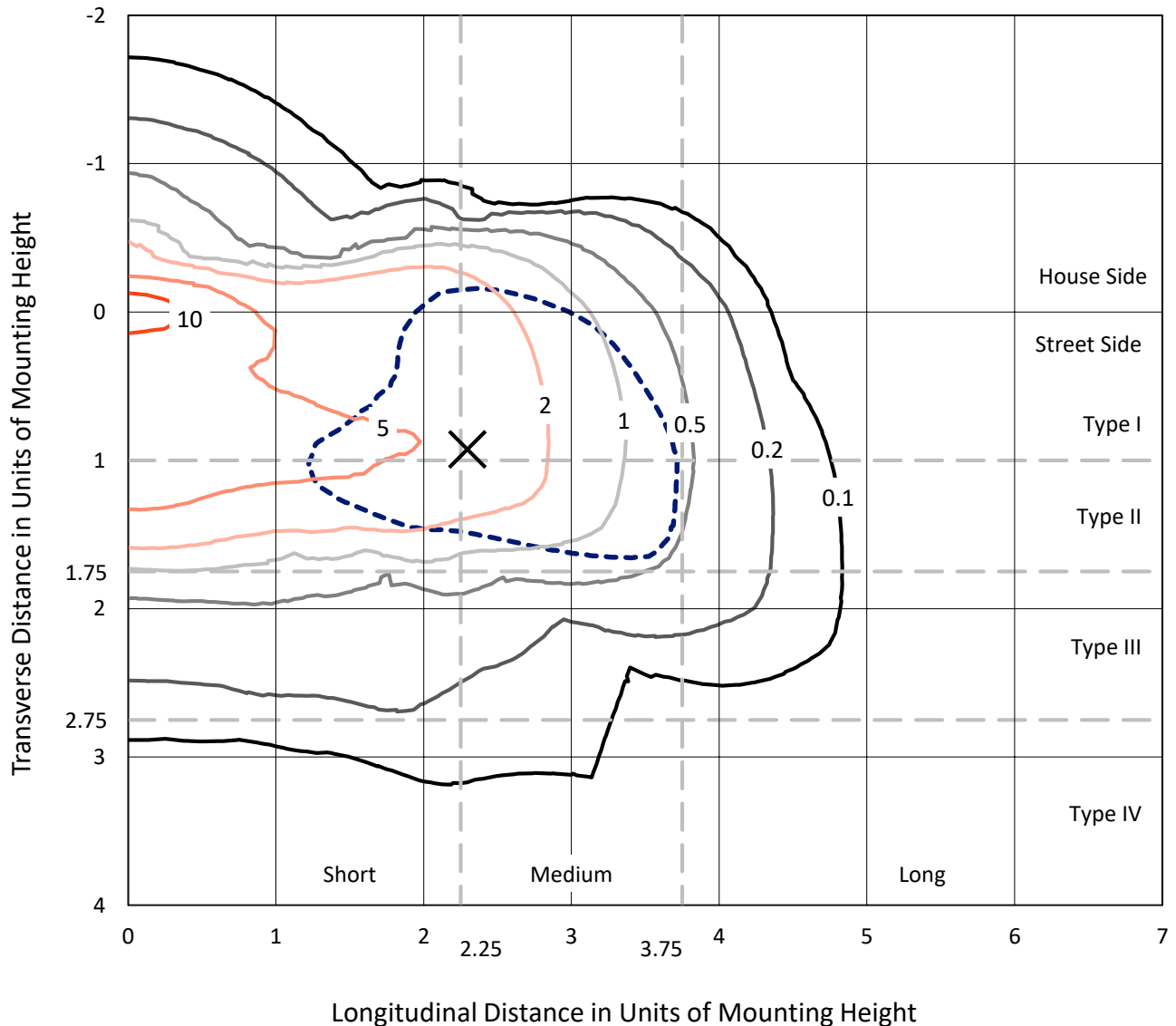
Input Watts (W): 59
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

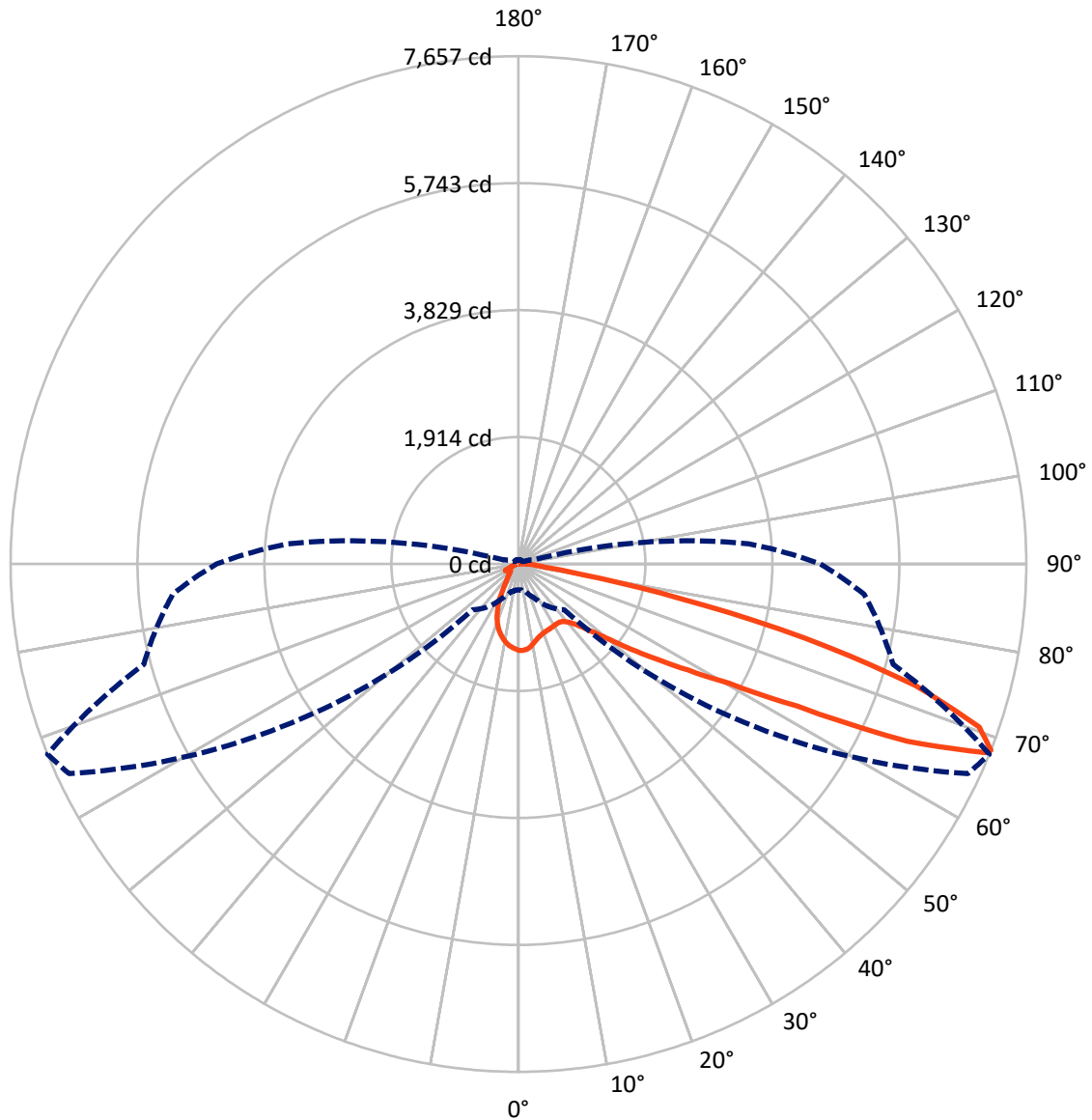
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 13 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	979.8	0.0	979.8
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	5009.2	0.0	5009.2
	% Fixture	83.6	0.0	83.6
Total	Lumens	5989.0	0.0	5989.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.7	1.9
10°-20°	259.0	4.3
20°-30°	350.3	5.8
30°-40°	493.8	8.2
40°-50°	812.1	13.6
50°-60°	1258.8	21.0
60°-70°	1632.1	27.3
70°-80°	936.6	15.6
80°-90°	134.8	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°	5989.0	100.0
0°-180°	5989.0	100.0



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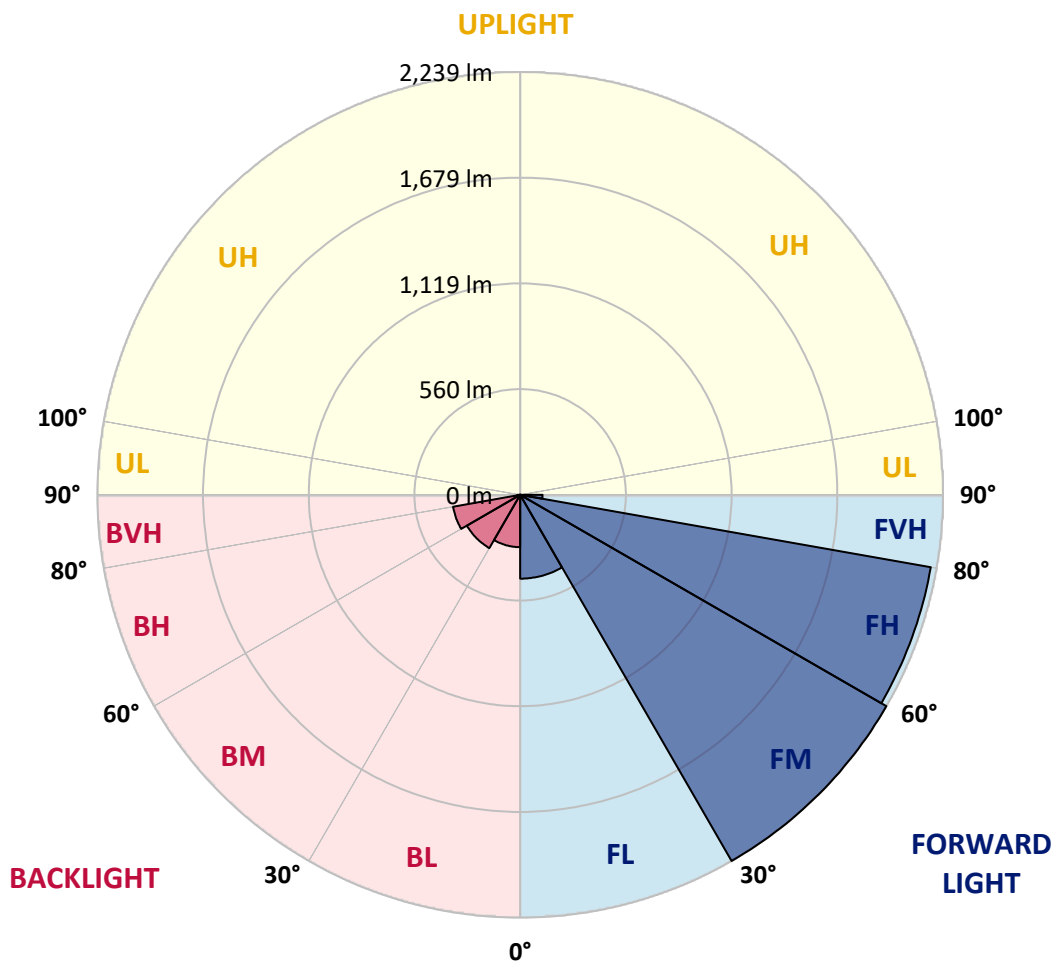
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	443.9	7.4			
FM	(30°-60°)	2238.8	37.4			
FH	(60°-80°)	2207.8	36.9			G2/5000
FVH	(80°-90°)	118.7	2.0			G2/225
BL	(0°-30°)	277.0	4.6	B1/500		
BM	(30°-60°)	325.9	5.4	B1/1000		
BH	(60°-80°)	360.9	6.0	B1/500		G1/500
BVH	(80°-90°)	16.1	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°	1303.2	1303.2	1303.2	1303.2	1303.2	1303.2	1303.2	1303.2	1303.2	1303.2	1303.2
2.5°	1268.3	1278.5	1278.5	1285.9	1292.6	1298.1	1302.8	1302.8	1302.8	1299.6	1296.9
5°	1134.9	1148.6	1150.6	1169.4	1194.0	1224.1	1257.8	1287.5	1293.4	1304.3	1308.6
7.5°	1042.2	1046.5	1053.9	1066.9	1091.9	1129.1	1181.9	1248.4	1264.4	1298.8	1316.8
10°	976.5	980.0	986.3	999.2	1021.9	1055.5	1107.5	1194.0	1220.6	1281.6	1317.2
12.5°	928.4	931.1	937.0	948.7	971.8	1001.9	1055.1	1145.1	1178.0	1264.4	1322.7
15°	890.8	895.5	900.2	911.5	935.0	964.0	1018.0	1109.5	1145.1	1250.7	1332.9
17.5°	875.9	878.3	879.1	884.9	906.1	935.4	989.4	1084.5	1121.2	1239.8	1340.7
20°	885.3	885.7	877.9	874.0	886.1	913.1	965.5	1065.7	1103.2	1230.0	1343.8
22.5°	926.4	926.4	906.1	888.9	880.6	897.5	949.5	1052.8	1093.5	1222.6	1343.8
25°	1004.7	1001.1	969.4	935.4	899.0	892.0	939.3	1044.6	1086.0	1218.6	1338.8
27.5°	1107.5	1104.4	1064.1	1013.7	947.9	903.7	935.8	1037.9	1078.6	1212.8	1327.8
30°	1232.7	1230.0	1184.2	1118.1	1021.1	940.9	944.0	1033.2	1072.7	1203.0	1309.4
32.5°	1357.5	1356.0	1319.6	1251.9	1122.0	1003.9	965.5	1032.4	1069.6	1191.3	1287.1
35°	1483.1	1483.1	1460.8	1403.7	1257.8	1098.5	1010.5	1046.9	1075.5	1185.0	1267.9
37.5°	1668.6	1661.1	1619.6	1560.6	1428.7	1221.4	1083.3	1077.4	1098.2	1195.6	1261.7
40°	1955.7	1934.2	1830.5	1731.1	1615.3	1378.7	1189.7	1136.5	1149.0	1231.6	1276.6
42.5°	2256.2	2222.1	2084.8	1926.0	1808.2	1572.7	1329.4	1232.3	1232.0	1301.2	1323.9
45°	2514.0	2496.4	2347.7	2146.2	2028.5	1791.0	1505.8	1374.7	1360.7	1409.2	1415.0
47.5°	2663.8	2652.1	2562.5	2379.4	2289.8	2048.8	1729.6	1572.3	1545.7	1574.7	1565.7
50°	2622.3	2633.7	2607.9	2514.4	2570.7	2411.1	2014.8	1843.0	1792.6	1821.5	1799.6
52.5°	2404.0	2434.6	2457.6	2475.6	2732.3	2895.8	2373.1	2181.1	2139.2	2134.1	2113.0
55°	2010.9	2059.4	2132.1	2264.4	2688.9	3285.1	2999.1	2589.9	2528.8	2496.8	2505.0
57.5°	1368.5	1442.0	1598.9	1850.5	2463.1	3450.9	3924.7	3118.0	3014.7	2900.5	2927.1
60°	753.9	815.3	1001.9	1255.4	1947.9	3426.3	4745.1	3976.4	3651.3	3348.4	3403.2
62.5°	487.9	501.2	640.0	857.6	1195.6	3024.9	5200.9	5411.0	4722.0	3939.2	4016.3
65°	392.0	401.4	469.5	691.7	832.9	1945.9	5221.2	6899.2	6445.0	4742.0	4744.3
67.5°	383.0	387.3	426.8	581.7	781.3	1059.4	4513.1	7486.0	7591.2	5689.5	5231.4
68°	388.5	393.6	433.5	563.7	780.9	976.5	4171.2	7477.0	7657.3	5848.0	5231.4
70°	342.7	349.0	442.1	583.3	747.6	839.6	2856.3	7079.9	7370.2	6212.2	4963.8
72.5°	179.2	174.1	218.7	460.5	841.5	874.8	1508.9	5914.9	6253.6	5753.3	4288.6
75°	139.7	127.1	122.5	181.9	740.2	907.2	876.3	4204.0	4459.9	4147.3	2866.5
77.5°	131.4	116.2	107.2	107.6	325.9	944.0	708.9	2474.1	2474.1	1978.4	914.7
80°	105.6	91.5	85.7	97.8	157.3	870.1	739.8	1127.5	961.6	511.3	251.9
82.5°	69.6	62.2	62.6	79.4	119.3	581.0	856.8	556.7	418.2	226.5	148.3
85°	44.2	37.9	42.3	55.6	89.2	259.0	848.2	386.9	277.0	127.1	73.9
87.5°	22.3	17.2	21.1	29.0	54.4	74.3	698.3	345.4	205.4	52.8	40.3
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°	1303.2	1303.2	1303.2	1303.2	1303.2	1303.2	1303.2	1303.2	1303.2	1303.2	1303.2
2.5°	1296.9	1288.3	1284.0	1276.9	1268.3	1259.7	1253.9	1251.1	1249.6	1250.3	1249.9
5°	1306.3	1294.9	1276.6	1250.3	1223.3	1194.8	1172.9	1156.1	1145.5	1142.4	1141.6
7.5°	1313.3	1296.9	1262.5	1214.7	1168.6	1118.5	1075.9	1041.8	1018.7	1008.2	1007.8
10°	1312.2	1291.0	1236.6	1166.2	1098.5	1025.0	958.1	901.0	859.5	839.6	838.8
12.5°	1313.3	1284.4	1205.0	1109.5	1012.5	907.2	807.9	719.1	657.2	627.9	626.7
15°	1318.0	1277.3	1172.5	1046.1	911.9	763.3	621.3	509.8	453.4	434.3	434.3
17.5°	1317.6	1265.6	1134.9	972.6	792.6	593.5	424.1	355.2	349.8	367.4	370.1
20°	1309.8	1246.8	1086.4	885.3	652.6	410.8	287.5	277.8	321.6	370.1	375.6
22.5°	1297.7	1222.6	1030.5	784.0	489.4	267.6	221.8	236.7	296.2	356.4	365.0
25°	1280.9	1193.2	966.3	666.2	325.5	192.5	185.0	203.4	245.3	285.6	291.8
27.5°	1256.2	1156.1	896.3	538.7	207.7	158.4	161.2	174.1	192.1	209.3	212.8
30°	1225.3	1112.6	820.0	397.5	157.7	141.6	146.3	154.1	162.0	172.9	175.3
32.5°	1194.0	1068.4	740.6	273.1	137.7	132.6	137.3	141.6	148.3	155.7	157.3
35°	1165.8	1027.3	658.8	190.5	129.1	126.8	129.1	131.8	138.5	145.9	146.7
37.5°	1145.5	993.7	573.5	150.6	124.0	121.7	122.8	124.0	131.8	142.8	144.0
40°	1142.8	971.4	487.1	135.4	120.1	117.0	116.2	117.0	127.1	139.7	140.8
42.5°	1169.4	972.6	402.6	129.1	117.0	113.5	110.3	111.9	120.9	130.7	131.4
45°	1232.3	1000.0	329.4	126.4	114.2	111.5	106.8	107.6	111.9	117.0	117.8
47.5°	1343.4	1059.8	273.5	124.8	111.9	109.5	103.7	101.3	101.7	104.5	104.5
50°	1521.1	1160.0	239.4	123.2	109.9	105.6	99.0	94.3	93.1	94.7	95.1
52.5°	1785.9	1331.7	223.0	120.1	106.4	100.5	93.1	88.4	86.5	88.0	88.0
55°	2143.9	1606.0	215.2	115.8	102.1	94.3	87.6	83.7	82.2	83.3	83.3
57.5°	2551.9	1962.4	228.5	109.9	96.6	87.6	82.9	80.2	79.0	80.2	80.6
60°	3036.6	2428.7	320.0	102.5	90.8	81.8	79.0	77.5	76.7	77.9	77.9
62.5°	3681.0	3049.2	495.3	96.6	84.5	76.3	75.5	74.7	73.9	75.1	75.1
65°	4376.6	3613.7	509.8	93.1	79.0	71.6	72.0	72.0	71.2	72.4	72.4
67.5°	4598.0	3564.8	284.8	88.8	72.4	66.9	68.5	68.5	68.1	69.2	68.9
68°	4551.1	3487.3	248.0	87.6	71.2	65.7	67.3	67.7	67.3	68.5	68.1
70°	4201.3	3061.7	163.1	81.0	66.1	61.8	64.2	64.6	64.2	65.7	65.3
72.5°	3468.2	2296.5	120.5	70.8	59.9	56.7	59.1	59.5	59.9	61.4	61.0
75°	2202.6	1268.3	95.1	60.2	53.6	50.9	53.2	54.4	55.2	57.5	56.3
77.5°	603.3	385.0	77.1	51.2	46.2	45.0	46.6	48.1	48.9	51.6	49.7
80°	211.3	170.2	64.2	43.4	38.3	37.9	39.5	41.1	41.9	44.2	41.9
82.5°	128.3	111.1	51.2	34.0	30.1	29.7	31.7	33.3	34.0	34.0	32.5
85°	66.9	58.7	37.6	23.9	20.7	19.6	23.1	25.0	25.4	25.0	23.9
87.5°	37.6	33.3	20.0	11.3	9.4	9.8	12.1	14.9	16.0	15.6	14.9
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)