

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: P196129

Luminaire Tested: **NAV-AF-01-D-UNV-SL3-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196129
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24262)
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-SL3-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 4000K, 615mA LIGHTSQUARE WITH 16 LEDS EACH AND TYPE III SPILL
LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4112.3 lumens
Efficiency: N/A
Efficacy: 120.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B1 - U0 - G1

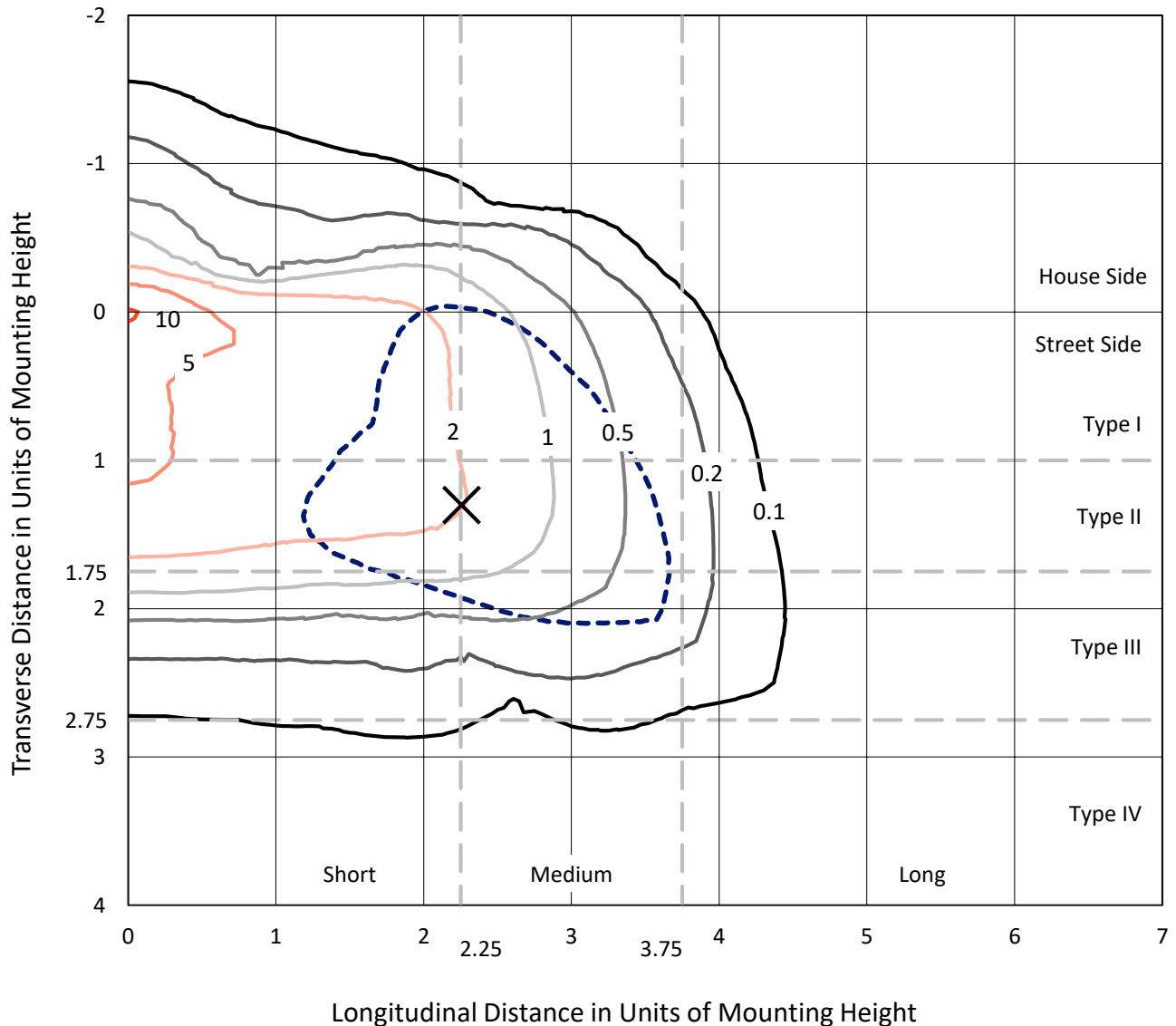
Input Watts (W): 34
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

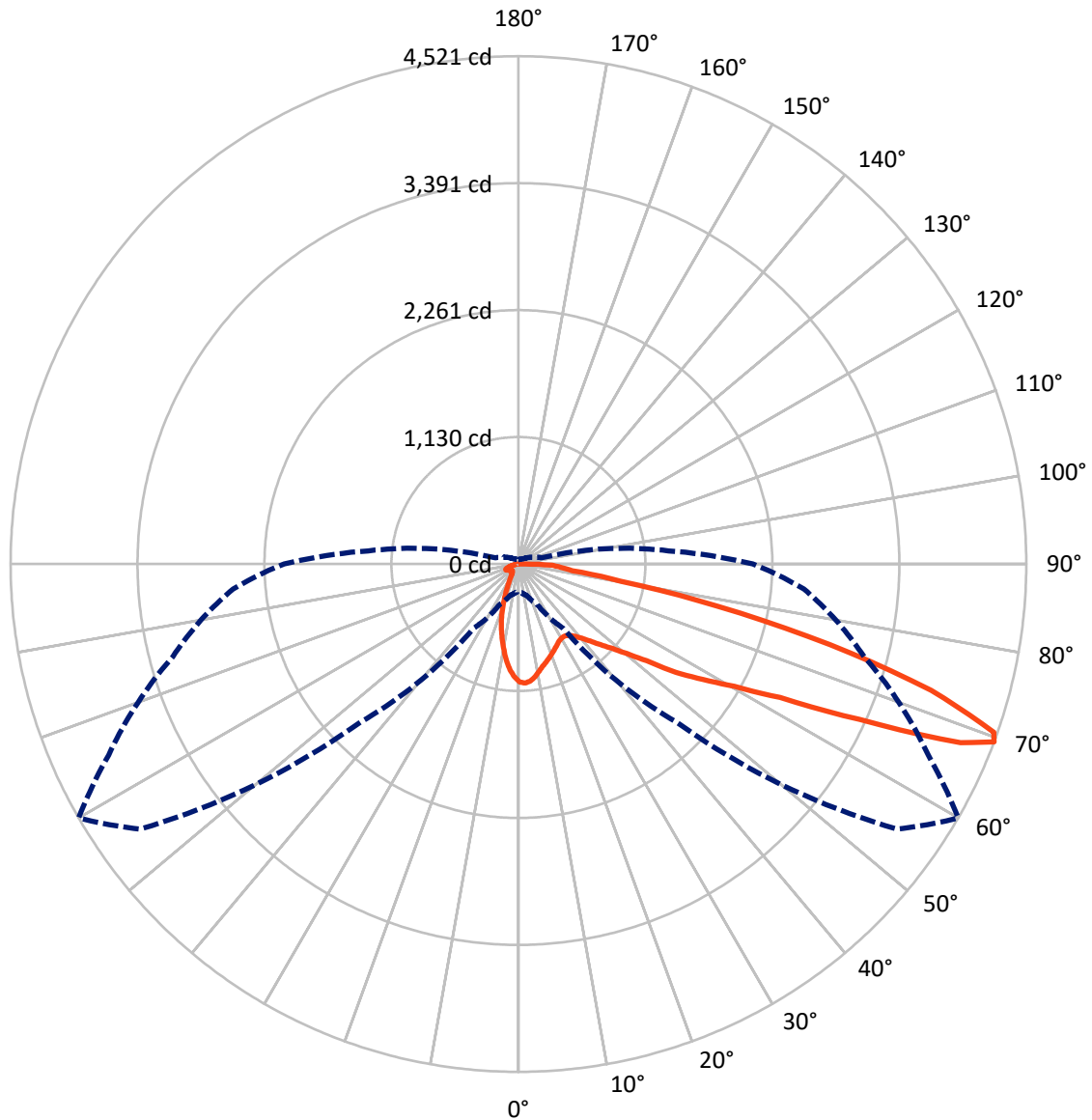
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 10.5 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 60-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	586.6	0.0	586.6
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	3525.7	0.0	3525.7
	% Fixture	85.7	0.0	85.7
Total	Lumens	4112.3	0.0	4112.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.0	2.2
10°-20°	190.6	4.6
20°-30°	243.1	5.9
30°-40°	334.6	8.1
40°-50°	541.9	13.2
50°-60°	850.5	20.7
60°-70°	1133.9	27.6
70°-80°	630.7	15.3
80°-90°	97.8	2.4
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°	4112.3	100.0
0°-180°	4112.3	100.0



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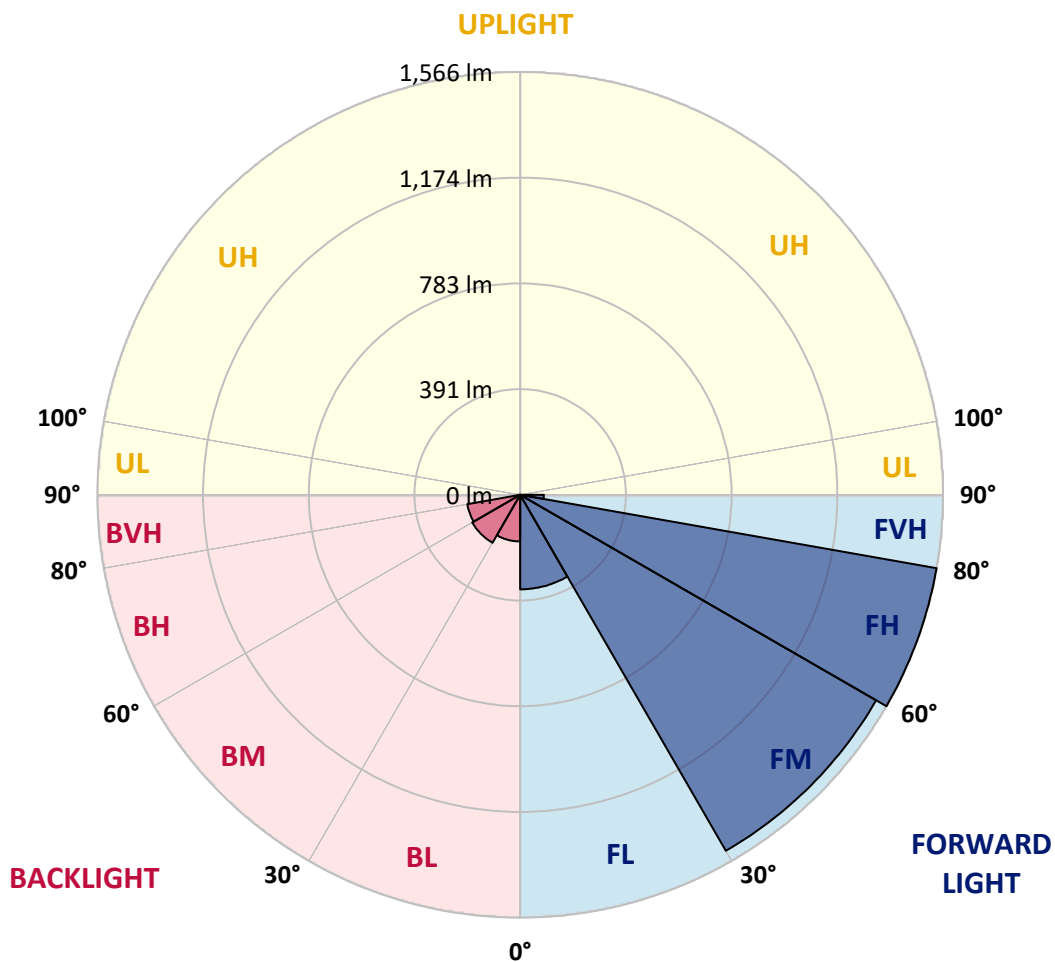
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	349.9	8.5			
FM	(30°-60°)	1522.2	37.0			
FH	(60°-80°)	1565.8	38.1			G1/1800
FVH	(80°-90°)	87.9	2.1			G1/100
BL	(0°-30°)	172.9	4.2	B1/500		
BM	(30°-60°)	204.9	5.0	B0/220		
BH	(60°-80°)	198.9	4.8	B1/500		G1/500
BVH	(80°-90°)	9.9	0.2			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	1049.2	1049.2	1049.2	1049.2	1049.2	1049.2	1049.2	1049.2	1049.2	1049.2	1049.2
2.5°	1077.2	1080.1	1080.1	1077.8	1076.5	1068.8	1064.3	1061.1	1055.6	1045.3	1036.0
5°	1038.7	1044.2	1046.6	1047.7	1054.6	1052.2	1052.4	1050.3	1045.6	1034.5	1019.5
7.5°	968.0	969.0	973.3	980.4	997.1	1008.6	1018.1	1020.0	1019.0	1010.8	989.7
10°	898.5	900.3	905.3	917.4	933.2	949.8	970.4	978.9	985.2	982.5	955.9
12.5°	840.7	841.0	846.5	860.4	878.1	899.0	926.9	940.1	955.1	961.2	931.4
15°	785.0	788.7	794.0	810.9	832.8	859.2	891.3	909.5	929.2	946.6	912.4
17.5°	742.9	745.7	748.9	762.9	788.2	821.1	861.0	880.5	906.6	933.2	892.9
20°	719.6	720.7	718.3	725.2	746.5	782.1	828.3	851.7	882.9	920.3	872.9
22.5°	714.8	714.8	706.1	704.9	714.3	744.4	794.5	823.3	861.2	911.3	854.9
25°	737.0	735.5	719.1	704.1	700.6	716.0	762.3	797.7	842.8	911.0	841.5
27.5°	779.0	776.8	756.6	731.2	709.3	702.8	737.5	773.7	828.3	920.0	834.6
30°	831.1	830.4	809.8	778.2	742.0	708.0	727.8	761.3	818.6	936.6	834.3
32.5°	888.4	884.8	872.1	840.5	793.5	737.3	733.7	761.8	815.9	961.0	840.5
35°	949.3	946.6	943.5	911.7	858.9	789.0	759.2	780.0	828.8	994.7	857.5
37.5°	1026.8	1024.0	1029.2	994.4	936.6	856.7	802.4	816.4	855.2	1043.7	889.5
40°	1164.7	1156.3	1141.5	1088.0	1027.3	939.8	864.9	867.1	900.3	1109.4	940.6
42.5°	1391.3	1364.1	1291.1	1192.7	1123.1	1036.4	946.4	936.4	962.5	1196.1	1015.0
45°	1618.3	1587.7	1464.4	1306.9	1222.2	1140.0	1047.2	1023.2	1040.0	1297.1	1110.7
47.5°	1764.9	1749.9	1610.6	1421.1	1326.2	1252.8	1162.4	1122.8	1135.0	1411.6	1228.9
50°	1808.0	1795.0	1685.5	1510.5	1424.3	1389.2	1305.1	1252.6	1254.6	1545.3	1370.4
52.5°	1775.7	1770.5	1698.0	1565.8	1514.4	1532.9	1502.5	1429.5	1412.1	1691.9	1523.9
55°	1732.8	1734.6	1706.7	1621.5	1606.2	1666.8	1761.0	1702.2	1628.3	1844.6	1683.7
57.5°	1597.4	1598.8	1672.1	1727.5	1781.3	1854.6	1962.2	1937.4	1851.4	2009.4	1862.8
60°	1286.4	1296.6	1459.9	1705.6	1981.5	2224.6	2250.9	2208.2	2088.8	2199.2	2095.6
62.5°	919.0	928.2	1117.3	1480.6	1957.9	2643.3	2784.2	2614.4	2410.7	2483.2	2423.2
65°	482.8	481.3	627.6	1023.2	1649.2	2740.4	3624.3	3335.2	2953.2	2873.8	2739.6
67.5°	269.8	278.4	335.1	516.1	1074.8	2411.8	4160.9	4246.1	3707.4	3183.6	2725.9
69°	249.5	252.4	290.3	399.0	700.6	1989.8	4114.7	4521.1	4025.3	3185.0	2550.2
70°	242.3	245.5	280.1	367.5	588.6	1630.5	3946.7	4488.9	4102.6	3114.3	2390.4
72.5°	217.3	221.5	255.0	330.4	496.0	840.5	3179.1	3842.1	3716.3	2721.9	1853.6
75°	185.4	192.5	243.2	328.1	469.9	534.3	2120.2	2862.4	2766.0	1946.6	1051.6
77.5°	76.7	77.5	106.3	240.2	493.2	511.3	1139.5	1813.2	1605.1	853.6	316.7
80°	53.5	52.5	53.0	70.2	397.9	514.7	584.6	922.2	716.8	225.2	148.2
82.5°	45.1	44.6	46.6	44.0	134.7	584.1	488.9	480.7	337.6	121.3	70.7
85°	29.8	29.1	38.3	40.1	64.0	463.8	525.8	377.9	251.5	64.9	30.1
87.5°	14.5	14.7	21.9	27.2	34.1	146.9	503.7	298.8	194.4	28.2	12.2
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°	1049.2	1049.2	1049.2	1049.2	1049.2	1049.2	1049.2	1049.2	1049.2	1049.2	1049.2
2.5°	1032.4	1024.5	1017.3	1008.4	1001.6	995.7	987.9	987.6	986.2	988.1	988.6
5°	1009.4	996.3	976.2	953.8	937.9	917.2	896.8	890.0	882.3	881.6	883.9
7.5°	974.9	954.3	920.0	885.8	851.5	816.4	783.2	766.3	749.9	744.9	747.4
10°	936.4	910.3	857.8	801.9	753.6	701.4	650.8	618.1	588.3	575.6	578.8
12.5°	906.3	873.1	799.2	726.7	654.5	579.6	512.9	448.3	399.5	377.6	378.9
15°	880.5	838.0	744.4	647.9	557.5	454.9	362.3	287.4	244.7	228.9	228.3
17.5°	852.5	801.1	687.2	574.6	457.3	330.4	242.6	198.4	181.5	176.2	176.2
20°	822.8	763.1	627.4	494.7	351.8	230.8	182.5	165.3	159.0	157.4	157.1
22.5°	795.0	726.0	567.2	409.5	254.5	175.1	155.3	148.7	147.7	148.9	148.9
25°	773.1	693.3	506.3	319.9	185.2	146.6	138.2	137.4	141.4	146.1	146.9
27.5°	756.8	664.0	446.2	233.6	145.6	127.7	124.7	128.2	137.4	146.9	148.7
30°	745.5	638.9	374.2	168.0	121.3	111.8	113.1	119.2	133.2	147.7	151.6
32.5°	740.5	618.7	301.7	129.0	103.6	98.4	101.8	109.7	124.2	138.7	143.4
35°	745.2	603.8	234.7	107.1	90.7	86.7	90.7	98.9	108.3	115.5	118.4
37.5°	762.3	598.6	176.7	94.9	82.2	78.4	81.5	87.1	91.2	93.9	95.2
40°	798.5	604.2	138.4	88.6	77.5	73.0	73.9	76.5	79.4	81.5	81.7
42.5°	856.0	622.4	123.2	86.2	74.7	68.8	67.5	69.4	72.5	75.4	75.9
45°	932.4	652.6	121.5	87.1	73.3	65.4	62.8	64.7	68.8	73.6	74.4
47.5°	1031.3	700.6	129.0	91.2	74.1	63.5	59.6	61.5	67.0	73.3	74.4
50°	1148.4	767.1	142.7	97.6	77.7	63.5	58.3	59.8	65.7	72.7	73.9
52.5°	1286.4	859.7	156.9	103.9	83.1	65.9	58.8	58.5	63.8	70.4	71.7
55°	1438.5	974.7	170.6	109.5	85.9	69.0	60.1	57.0	61.2	66.5	67.5
57.5°	1617.5	1132.1	194.6	114.7	87.6	71.5	61.7	55.3	57.8	61.5	62.2
60°	1860.4	1363.3	241.3	123.7	90.4	72.5	62.0	53.8	53.5	56.2	56.5
62.5°	2177.1	1634.2	285.8	134.2	96.3	72.7	60.9	52.8	50.1	50.9	50.9
65°	2402.3	1733.8	272.9	143.2	101.5	72.5	59.8	52.0	47.5	46.1	46.1
67.5°	2274.1	1531.6	231.8	145.6	102.1	69.7	57.5	50.1	45.1	41.9	41.9
69°	2085.9	1342.5	212.8	141.4	97.8	66.2	54.8	48.3	43.5	39.8	39.8
70°	1932.4	1199.3	201.2	136.4	92.8	63.3	52.5	46.4	41.9	38.8	38.5
72.5°	1442.7	800.4	172.0	117.6	76.2	53.5	45.9	41.4	37.7	35.6	35.6
75°	761.3	401.1	140.9	96.0	58.8	42.8	37.7	34.8	32.7	32.4	32.1
77.5°	249.5	181.5	101.3	72.2	43.3	33.2	30.1	28.2	27.9	29.1	29.1
80°	134.7	108.3	65.2	48.8	30.1	24.8	23.2	22.9	23.7	25.3	25.3
82.5°	65.4	53.5	38.8	30.1	20.6	18.2	18.2	18.4	19.5	21.4	21.4
85°	28.2	25.3	22.4	16.9	12.7	11.4	12.9	14.2	15.0	16.4	16.9
87.5°	13.4	11.9	10.3	6.5	5.5	5.8	6.9	8.4	10.0	11.0	11.4
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)