

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: P197210

Luminaire Tested: **NAV-AF-02-D-UNV-T2-8030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197210
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24136)
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-T2-8030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 80 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6410 lumens
Efficiency: N/A
Efficacy: 97.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B1 - U0 - G2

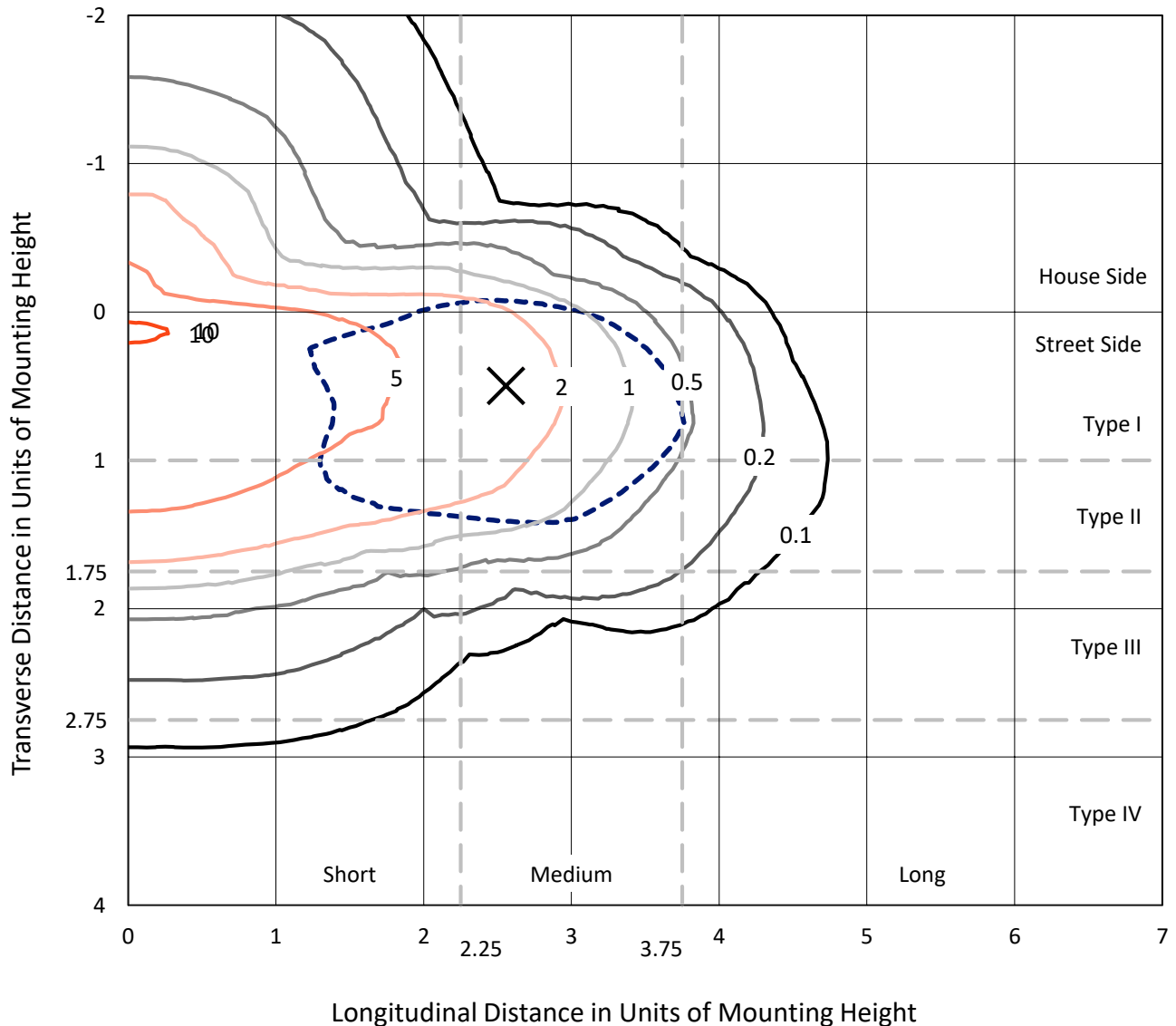
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

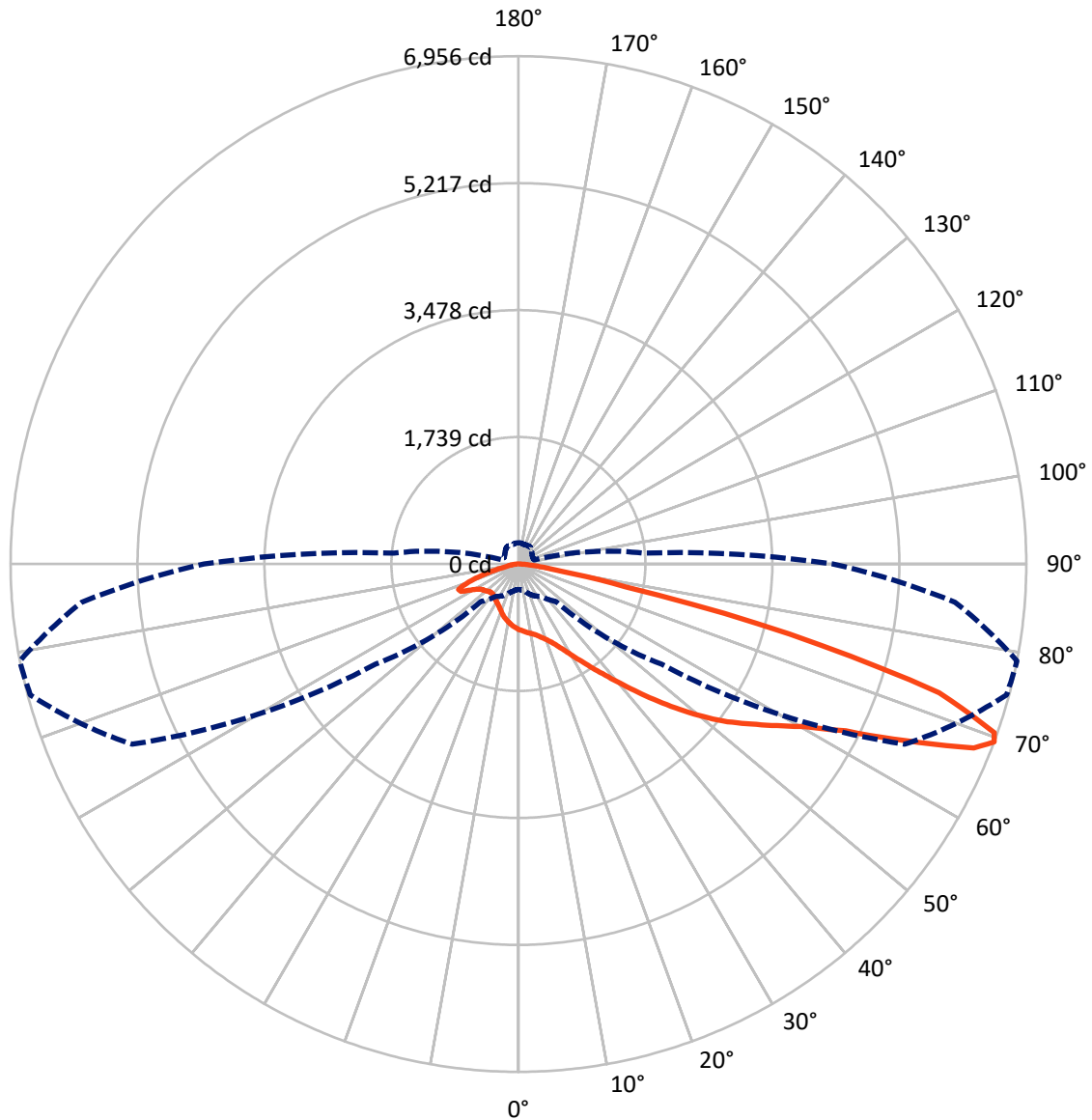
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 10.9 fc
 Type II - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1205.8	0.0	1205.8
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	5204.2	0.0	5204.2
	% Fixture	81.2	0.0	81.2
Total	Lumens	6410.0	0.0	6410.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.4	1.3
10°-20°	239.1	3.7
20°-30°	395.1	6.2
30°-40°	639.7	10.0
40°-50°	1021.9	15.9
50°-60°	1463.5	22.8
60°-70°	1630.6	25.4
70°-80°	815.7	12.7
80°-90°	121.1	1.9
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°	6410.0	100.0
0°-180°	6410.0	100.0

Coefficient of Utilization



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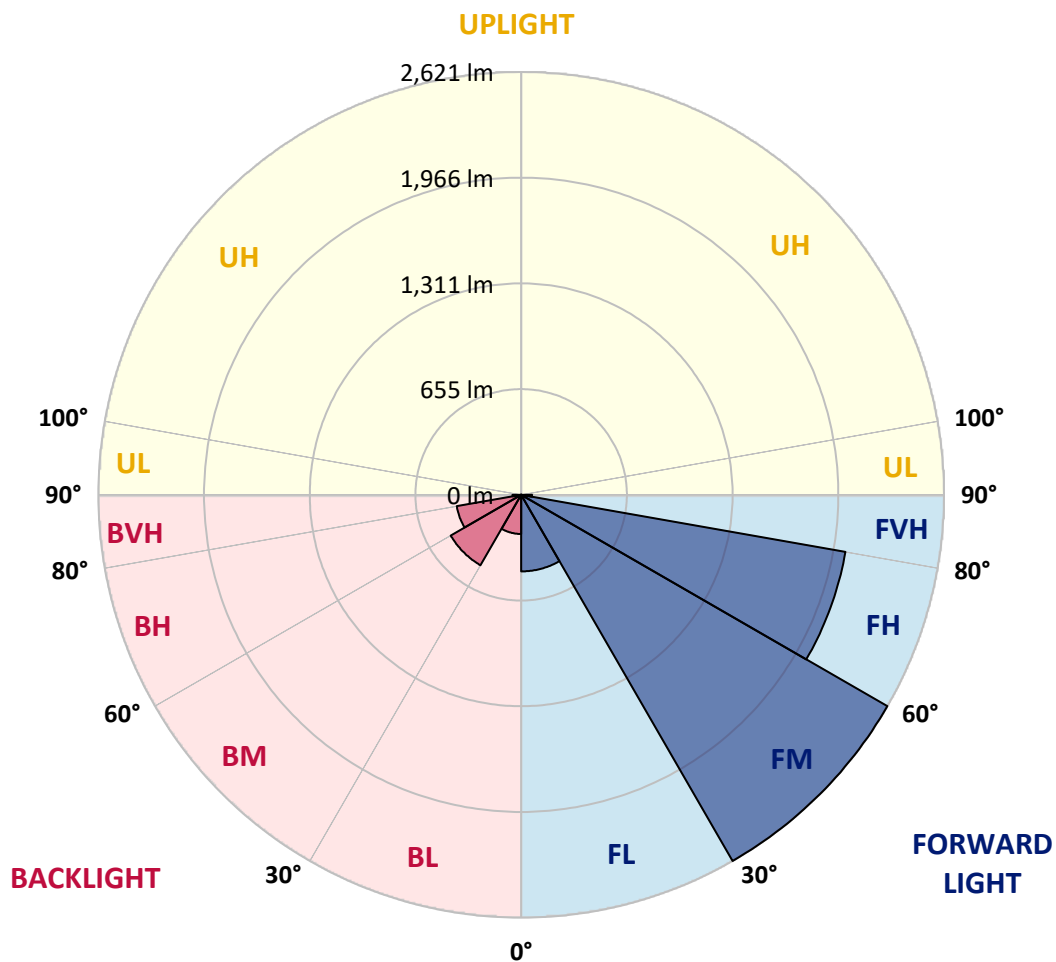
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	474.6	7.4			
FM (30°-60°)	2621.1	40.9			
FH (60°-80°)	2040.9	31.8			G2/5000
FVH (80°-90°)	67.6	1.1			G1/100
BL (0°-30°)	242.9	3.8	B1/500		
BM (30°-60°)	504.1	7.9	B1/1000		
BH (60°-80°)	405.4	6.3	B1/500		G1/500
BVH (80°-90°)	53.4	0.8			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°	75°	79°	85°
0°	899.5	899.5	899.5	899.5	899.5	899.5	899.5	899.5	899.5	899.5	899.5
2.5°	987.6	985.5	985.1	978.8	975.4	968.3	951.5	934.3	918.4	910.0	901.2
5°	1070.2	1066.0	1063.9	1053.4	1044.2	1028.3	1001.8	974.6	946.1	931.4	913.8
7.5°	1120.1	1120.5	1120.5	1112.1	1102.9	1083.6	1050.1	1012.8	970.4	951.1	923.4
10°	1124.3	1124.7	1131.0	1133.1	1135.2	1125.1	1094.1	1047.1	992.6	967.5	931.4
12.5°	1082.8	1085.7	1096.2	1111.3	1132.7	1143.6	1130.2	1084.0	1021.1	990.5	946.5
15°	1027.0	1029.9	1043.4	1066.4	1100.8	1137.3	1156.2	1126.4	1058.5	1022.4	968.7
17.5°	999.8	1003.1	1012.3	1030.8	1064.3	1113.4	1170.0	1171.7	1102.5	1061.0	995.1
20°	986.8	989.3	1001.0	1016.1	1041.7	1088.7	1171.3	1219.5	1154.9	1106.7	1027.4
22.5°	1016.5	1017.4	1023.2	1031.6	1048.8	1084.9	1170.4	1269.0	1220.3	1164.1	1068.9
25°	1103.8	1098.3	1094.1	1083.6	1087.8	1113.4	1183.9	1321.8	1304.2	1239.6	1124.3
27.5°	1206.9	1206.1	1195.2	1170.9	1155.3	1171.7	1222.0	1380.9	1407.0	1335.7	1196.9
30°	1321.8	1322.2	1310.9	1281.1	1249.7	1251.4	1282.8	1449.3	1529.8	1451.4	1286.2
32.5°	1442.2	1449.7	1428.8	1399.0	1360.8	1348.7	1370.0	1531.9	1672.0	1588.1	1389.8
35°	1586.0	1587.3	1564.2	1520.6	1482.4	1463.1	1482.9	1635.1	1836.0	1748.7	1516.0
37.5°	1735.3	1736.1	1712.2	1656.5	1608.2	1595.7	1617.5	1760.5	2009.6	1931.6	1664.4
40°	1857.3	1866.1	1847.3	1794.9	1746.2	1738.7	1770.1	1910.6	2231.4	2148.0	1841.0
42.5°	1995.7	2005.8	1983.1	1928.6	1890.1	1887.5	1936.6	2081.7	2452.0	2398.3	2041.0
45°	2151.7	2166.0	2134.5	2073.3	2040.6	2096.0	2098.9	2271.2	2706.1	2678.4	2266.2
47.5°	2322.0	2333.7	2308.2	2242.3	2206.7	2286.8	2257.8	2476.3	2980.8	2978.7	2509.9
50°	2453.3	2466.3	2468.8	2439.8	2402.5	2412.6	2432.3	2691.9	3254.6	3287.4	2761.9
52.5°	2429.3	2441.9	2498.5	2574.4	2634.4	2608.4	2632.3	2920.8	3519.3	3588.5	3001.4
55°	2236.4	2243.2	2349.3	2529.6	2785.0	2909.1	2910.8	3169.9	3770.9	3867.8	3228.6
57.5°	1888.8	1889.6	2027.6	2293.5	2697.3	3104.1	3350.3	3482.8	4033.4	4176.4	3510.5
60°	1336.5	1339.9	1500.5	1848.1	2383.2	3080.6	3822.9	4042.6	4337.4	4523.2	3873.6
62.5°	793.4	801.0	922.2	1201.0	1770.1	2778.7	4102.2	5038.6	4785.3	5031.9	4454.9
65°	516.2	522.5	595.1	735.1	1045.9	2021.7	4010.3	6003.1	5632.8	5832.0	5290.2
67.5°	397.6	402.6	459.6	544.3	641.6	1092.9	3206.4	6205.3	6664.5	6726.5	5995.2
69°	349.3	353.5	395.5	476.8	540.1	723.4	2389.5	5838.3	6922.4	6956.3	6004.0
70°	323.7	327.1	366.5	437.0	496.1	577.5	1828.8	5412.3	6828.0	6914.8	5830.8
72.5°	266.7	269.6	297.7	351.8	405.5	411.4	810.2	3952.0	5749.4	6027.0	4934.2
75°	222.7	224.4	242.8	282.2	328.4	327.5	413.9	2238.5	3508.4	3839.2	3046.6
77.5°	185.8	187.0	199.2	223.5	259.2	257.9	291.5	966.2	1549.1	1494.6	1048.8
80°	164.0	164.8	171.1	177.4	200.0	198.8	216.0	443.7	630.3	582.5	396.7
82.5°	124.5	126.2	158.1	161.0	155.2	149.7	150.5	258.3	322.9	294.0	213.0
85°	70.5	70.9	101.5	118.7	135.0	101.5	97.7	133.4	159.4	139.6	93.1
87.5°	31.5	32.7	48.6	56.2	73.0	59.5	55.8	56.6	68.8	57.0	36.9
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°	899.5	899.5	899.5	899.5	899.5	899.5	899.5	899.5	899.5	899.5	899.5
2.5°	892.8	885.7	868.9	851.7	834.5	823.6	812.3	801.8	797.6	797.2	789.2
5°	896.6	879.8	841.7	799.7	759.9	728.8	702.8	686.1	669.7	666.8	659.7
7.5°	897.8	870.6	808.5	741.4	680.6	637.8	611.8	600.5	592.6	590.5	587.9
10°	897.4	858.8	771.6	679.8	610.6	578.3	568.7	571.2	574.5	576.2	576.2
12.5°	904.1	853.4	734.7	621.9	565.3	549.8	557.3	570.3	580.4	584.6	585.4
15°	916.3	850.0	694.0	571.6	533.4	537.2	555.7	574.5	588.8	595.1	596.7
17.5°	931.4	845.4	647.1	530.1	515.0	528.0	551.9	575.8	593.0	600.9	602.2
20°	948.2	838.7	598.4	499.0	498.6	515.0	538.9	565.7	584.2	593.0	592.6
22.5°	970.8	832.4	553.1	476.4	480.6	495.7	515.4	539.7	556.9	564.9	563.2
25°	1001.0	826.6	512.5	456.3	460.0	470.1	483.9	502.4	514.6	518.7	515.8
27.5°	1041.7	821.9	480.6	437.8	437.4	442.0	450.4	460.5	466.3	465.1	460.5
30°	1091.6	817.3	457.1	421.5	415.6	415.2	418.9	424.8	428.6	421.0	417.3
32.5°	1147.4	809.4	436.1	407.2	396.7	392.9	394.6	402.6	418.1	410.6	407.6
35°	1213.2	800.1	415.2	391.7	383.7	376.6	377.8	395.0	442.0	436.6	433.6
37.5°	1292.5	791.8	395.9	374.9	374.5	365.7	364.8	385.4	448.3	436.6	434.0
40°	1387.7	790.1	378.7	356.5	363.2	359.8	356.9	369.5	413.5	389.6	385.0
42.5°	1502.6	797.6	366.1	338.8	350.2	358.1	352.7	355.6	373.6	352.3	348.5
45°	1636.8	818.2	356.9	323.3	336.3	356.9	350.6	348.1	351.0	339.3	336.7
47.5°	1793.2	854.7	350.6	310.3	323.3	353.5	349.7	344.7	343.5	336.7	335.1
50°	1960.5	903.7	346.4	298.6	311.6	347.6	349.3	342.2	340.1	337.2	336.3
52.5°	2126.6	957.0	341.4	288.5	301.9	340.5	349.7	339.7	336.7	335.1	334.2
55°	2291.8	1012.3	332.1	279.7	294.8	332.1	349.3	336.3	333.0	333.0	333.0
57.5°	2506.1	1096.6	320.0	272.6	285.6	321.2	343.9	332.6	327.9	328.4	328.8
60°	2815.6	1237.9	306.6	264.6	273.4	308.6	335.5	325.8	320.4	322.1	322.5
62.5°	3332.6	1485.0	288.1	253.3	260.8	295.2	324.6	316.6	311.6	314.5	314.9
65°	4022.1	1784.0	263.8	239.0	247.8	280.1	310.7	305.7	300.3	307.4	307.0
67.5°	4442.7	1871.6	238.2	223.9	235.3	264.2	293.6	291.5	287.7	300.3	299.4
69°	4304.7	1713.1	223.5	214.3	226.5	253.3	282.6	281.8	278.9	291.0	290.2
70°	4090.4	1565.0	214.3	208.0	221.8	246.6	275.5	275.5	272.6	283.1	281.0
72.5°	3285.7	1160.8	192.9	192.1	205.9	228.1	256.2	258.3	256.6	260.4	258.3
75°	1929.1	699.5	171.9	174.5	186.6	208.4	234.8	236.5	234.8	234.4	234.8
77.5°	668.9	313.7	151.8	155.6	166.1	188.3	211.4	214.7	212.2	209.3	210.1
80°	261.7	182.4	130.0	135.5	144.3	165.6	187.9	190.0	186.2	185.8	182.4
82.5°	157.3	111.1	101.1	109.9	120.8	143.8	162.3	161.5	158.5	175.7	153.9
85°	68.4	61.6	73.8	82.6	88.1	107.8	137.1	133.4	126.2	111.1	108.6
87.5°	27.7	31.9	40.7	49.1	52.8	69.6	93.9	90.6	91.8	75.5	75.1
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)