

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: P194954

Luminaire Tested: **NAV-AF-02-D-UNV-5MQ-7060-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P194954
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24129)
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-5MQ-7060-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V MEDIUM OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8547 lumens
Efficiency: N/A
Efficacy: 129.5 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B3 - U0 - G2

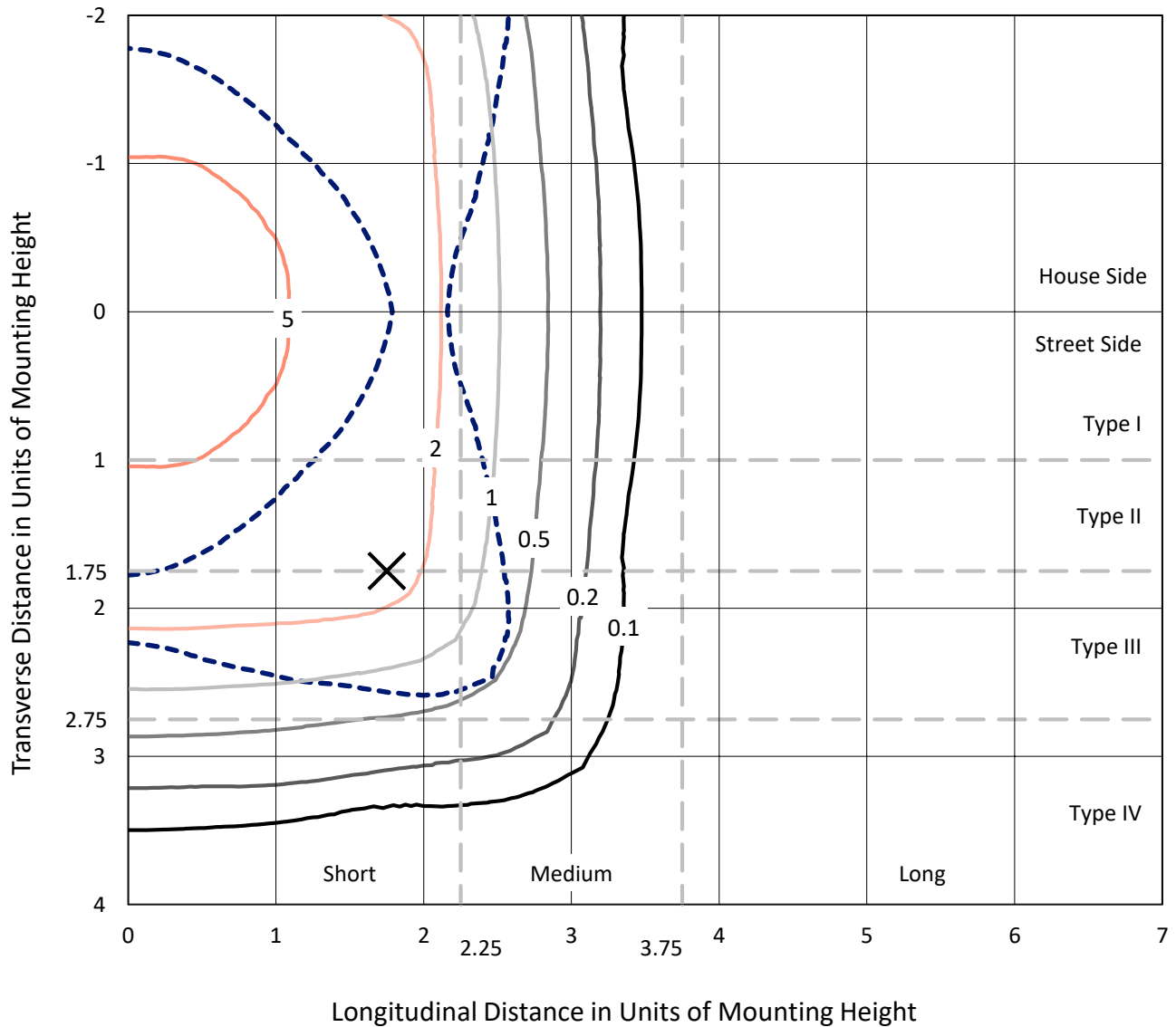
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

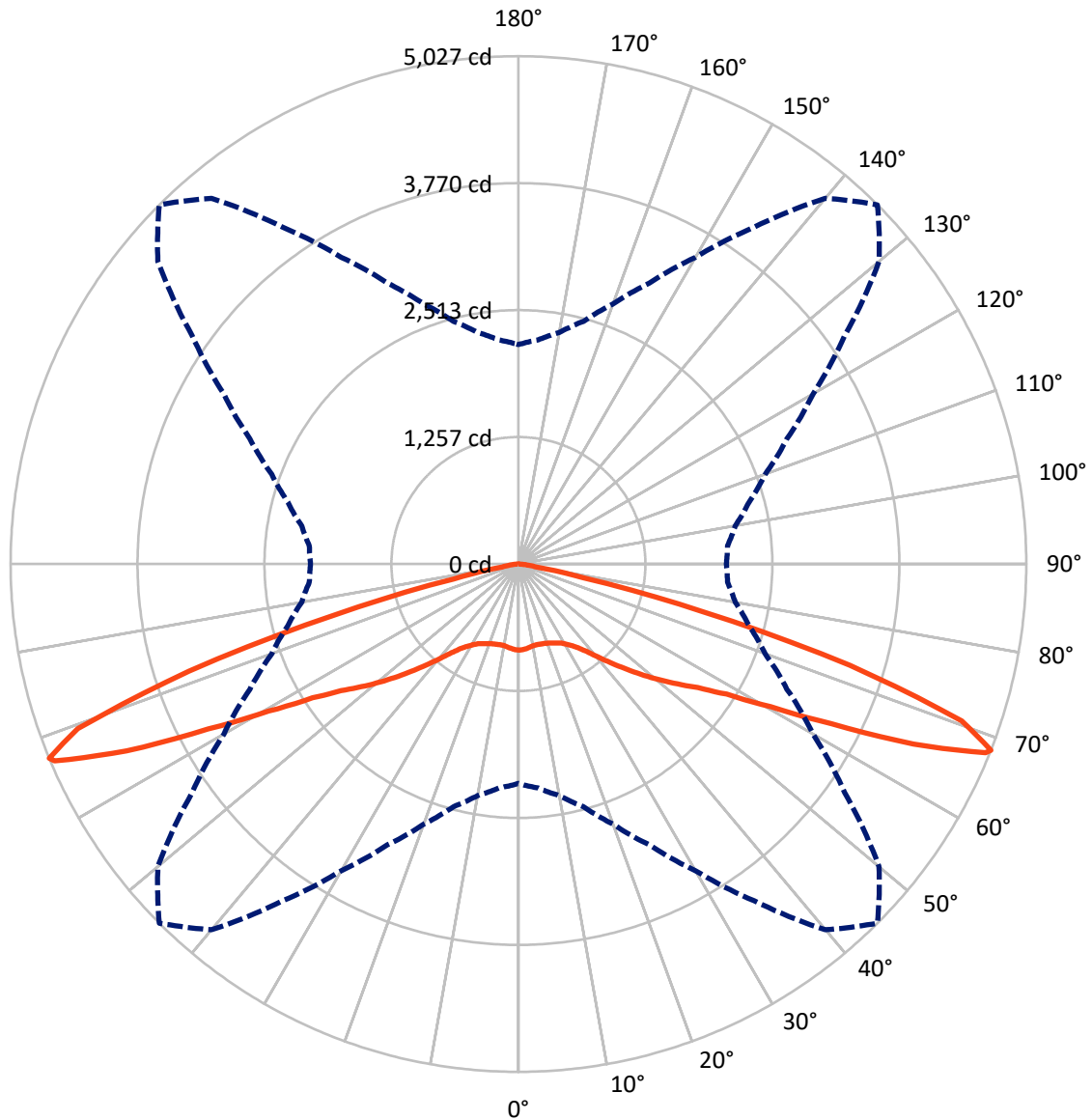
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 8.5 fc
 Type V - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4273.5	0.0	4273.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	4273.5	0.0	4273.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	8547.0	0.0	8547.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.8	0.9
10°-20°	231.4	2.7
20°-30°	393.4	4.6
30°-40°	643.7	7.5
40°-50°	1150.4	13.5
50°-60°	1942.9	22.7
60°-70°	3012.7	35.2
70°-80°	1035.8	12.1
80°-90°	56.9	0.7
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°	8547.0	100.0
0°-180°	8547.0	100.0



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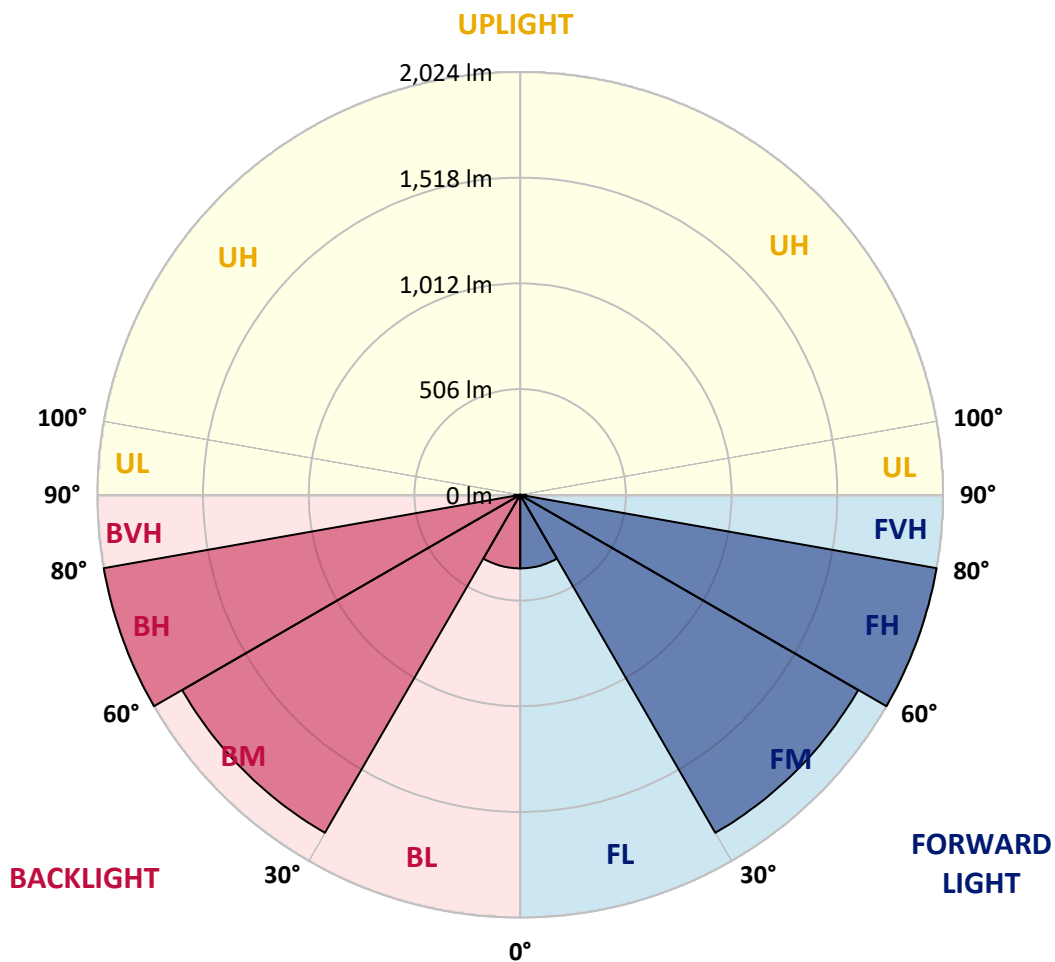
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	352.3	4.1			
FM	(30°-60°)	1868.5	21.9			
FH	(60°-80°)	2024.3	23.7			G2/5000
FVH	(80°-90°)	28.5	0.3			G1/100
BL	(0°-30°)	352.3	4.1	B1/500		
BM	(30°-60°)	1868.5	21.9	B2/2500		
BH	(60°-80°)	2024.3	23.7	B3/2500		G2/5000
BVH	(80°-90°)	28.5	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G2

Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	852.6	852.6	852.6	852.6	852.6	852.6	852.6	852.6	852.6	852.6	852.6
2.5°	856.3	856.3	857.3	856.8	855.2	853.6	852.1	850.5	849.4	848.4	847.4
5°	847.4	847.4	848.9	847.9	846.8	845.3	844.2	842.6	841.6	840.6	841.1
7.5°	835.8	836.9	837.9	837.4	835.3	834.8	833.2	832.7	831.7	830.1	830.6
10°	825.9	826.4	827.5	826.9	826.4	824.8	824.3	823.8	823.3	821.2	820.7
12.5°	816.0	817.0	818.0	818.6	818.0	818.6	819.1	819.6	819.1	818.0	818.0
15°	808.1	809.1	810.7	812.3	812.8	816.0	818.0	820.1	821.7	822.2	820.7
17.5°	803.9	805.5	807.6	810.7	813.3	817.0	820.7	823.8	826.4	826.9	825.4
20°	803.4	805.0	808.1	811.8	816.5	821.2	826.9	831.7	834.3	835.8	834.3
22.5°	807.1	809.1	813.3	818.0	823.8	830.1	837.4	842.6	847.9	850.0	848.4
25°	817.5	819.6	824.3	830.1	836.4	844.2	851.5	858.3	863.6	866.2	864.1
27.5°	839.5	840.0	845.3	851.5	858.9	865.7	875.1	878.2	882.4	885.0	882.4
30°	870.4	871.4	876.1	886.1	892.9	901.8	907.0	910.2	914.9	917.5	914.3
32.5°	917.5	918.5	922.7	932.1	938.4	945.2	951.5	953.6	958.3	961.5	957.8
35°	984.0	986.1	989.7	996.0	1001.2	1006.5	1011.2	1009.6	1012.7	1016.9	1013.3
37.5°	1075.0	1074.5	1075.5	1080.3	1085.5	1088.6	1096.0	1092.3	1095.4	1099.1	1097.0
40°	1181.3	1181.3	1180.7	1189.1	1191.2	1194.4	1202.2	1197.5	1201.7	1205.9	1202.2
42.5°	1302.2	1304.3	1306.9	1313.7	1319.4	1320.5	1324.2	1322.1	1327.3	1331.0	1327.3
45°	1441.4	1444.5	1447.7	1463.4	1466.0	1468.1	1470.7	1463.9	1469.7	1472.8	1471.7
47.5°	1585.8	1591.6	1598.4	1614.6	1625.1	1629.8	1631.9	1624.1	1624.6	1629.3	1629.8
50°	1749.1	1755.4	1762.2	1780.5	1790.5	1798.9	1801.5	1792.6	1793.6	1797.3	1798.3
52.5°	1899.9	1907.2	1921.9	1946.5	1960.6	1975.2	1976.3	1965.3	1970.0	1972.6	1970.5
55°	2041.7	2051.1	2070.5	2103.5	2129.1	2157.9	2171.0	2158.9	2158.9	2156.9	2155.8
57.5°	2207.1	2217.6	2237.5	2275.7	2311.3	2352.6	2388.2	2400.2	2422.2	2429.5	2418.0
60°	2456.2	2467.2	2487.6	2537.9	2582.9	2643.1	2701.7	2749.3	2826.8	2868.7	2831.0
62.5°	2683.9	2700.6	2748.8	2836.7	2934.1	3045.6	3174.8	3266.9	3407.7	3477.9	3383.1
65°	2632.1	2666.1	2760.3	2898.5	3099.5	3341.3	3604.5	3857.3	4148.3	4297.5	4104.9
67.5°	2299.2	2328.0	2429.5	2590.2	2840.9	3174.3	3583.6	4107.0	4707.3	4986.8	4646.1
68°	2172.0	2225.9	2327.0	2486.6	2739.4	3067.0	3504.0	4069.3	4724.6	5026.6	4658.6
70°	1665.4	1684.8	1781.6	1925.0	2197.7	2519.0	2960.2	3604.5	4345.1	4656.0	4277.6
72.5°	791.4	802.9	865.7	1007.0	1180.2	1441.9	1831.3	2439.0	3106.3	3429.7	3052.4
75°	290.0	292.6	307.2	340.7	405.6	504.0	690.9	1068.7	1582.2	1886.8	1588.5
77.5°	156.5	157.0	162.8	171.1	182.7	195.7	224.0	300.4	484.7	659.5	511.9
80°	98.4	97.9	103.6	110.4	118.3	124.6	127.2	136.1	153.4	179.5	164.9
82.5°	50.2	55.0	68.0	75.4	86.9	89.0	86.4	85.8	91.1	98.4	101.5
85°	27.7	24.6	36.1	48.2	52.3	53.9	54.4	51.3	50.2	49.2	51.8
87.5°	14.1	13.1	15.7	24.1	25.6	20.9	21.5	18.3	12.6	12.6	13.1
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):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	852.6	852.6	852.6	852.6	852.6	852.6	852.6	852.6
2.5°	846.3	846.8	845.8	845.8	845.8	846.3	845.8	845.3
5°	839.5	840.6	840.6	841.1	841.6	841.6	841.6	841.6
7.5°	829.6	830.1	831.1	831.1	831.1	831.1	831.1	831.1
10°	820.1	819.1	818.6	817.5	817.5	816.0	816.5	817.0
12.5°	815.4	813.3	812.3	810.7	809.7	808.1	808.1	808.6
15°	817.5	814.4	811.2	810.2	809.1	808.1	807.1	807.6
17.5°	821.7	818.0	814.4	812.3	810.2	808.6	808.1	808.6
20°	830.6	825.4	819.6	816.0	811.8	810.7	809.1	810.7
22.5°	842.6	836.4	829.0	822.2	817.5	815.4	813.3	814.9
25°	857.3	850.5	843.2	835.3	830.1	828.5	825.9	825.9
27.5°	877.7	872.0	865.7	858.3	853.1	851.5	847.4	847.4
30°	910.2	904.4	898.6	892.4	887.1	885.6	880.3	880.3
32.5°	953.1	946.8	943.1	937.9	933.7	931.1	924.8	924.3
35°	1010.6	1004.9	1004.4	1000.7	996.5	997.0	990.8	989.7
37.5°	1093.3	1088.6	1090.2	1087.1	1083.4	1086.5	1082.9	1082.9
40°	1199.1	1197.5	1199.1	1197.0	1197.5	1198.0	1194.9	1195.9
42.5°	1326.8	1322.6	1332.0	1331.0	1329.4	1333.6	1326.2	1321.0
45°	1473.8	1472.3	1481.7	1483.3	1480.1	1482.7	1469.7	1469.1
47.5°	1633.5	1633.5	1641.8	1640.8	1637.7	1638.2	1622.5	1612.5
50°	1799.9	1798.9	1807.2	1805.1	1801.0	1800.4	1784.2	1774.3
52.5°	1973.1	1973.1	1985.2	1979.4	1969.5	1964.8	1944.9	1931.8
55°	2164.7	2162.1	2165.8	2146.9	2127.5	2113.4	2088.8	2078.9
57.5°	2407.0	2376.7	2350.5	2326.4	2299.2	2282.5	2253.7	2243.2
60°	2750.9	2669.8	2634.7	2586.6	2541.5	2519.0	2480.8	2460.4
62.5°	3227.2	3092.7	2997.4	2891.2	2788.6	2716.4	2658.3	2632.6
65°	3777.8	3484.7	3242.3	3014.7	2821.6	2668.2	2582.9	2556.2
67.5°	3987.1	3449.1	3030.9	2704.3	2469.8	2287.2	2185.1	2163.7
68°	3942.6	3367.4	2933.0	2598.6	2363.1	2178.8	2077.3	2057.9
70°	3477.9	2840.9	2382.4	2049.6	1829.7	1654.4	1582.7	1551.8
72.5°	2370.9	1824.5	1399.5	1119.5	955.2	844.2	778.3	755.8
75°	1091.3	737.4	492.5	367.9	312.5	285.8	265.4	260.1
77.5°	318.2	231.3	198.9	184.2	173.2	163.8	157.0	156.5
80°	151.3	141.8	137.6	128.2	118.3	109.4	103.1	104.2
82.5°	101.5	98.9	98.9	89.5	73.8	63.3	52.3	47.1
85°	53.9	56.0	59.1	56.0	48.7	36.1	23.6	25.6
87.5°	18.3	20.9	22.0	21.5	19.4	14.7	11.0	11.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)