

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: P195914

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195914
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-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 4000K, 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: 8743.2 lumens
Efficiency: N/A
Efficacy: 132.5 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

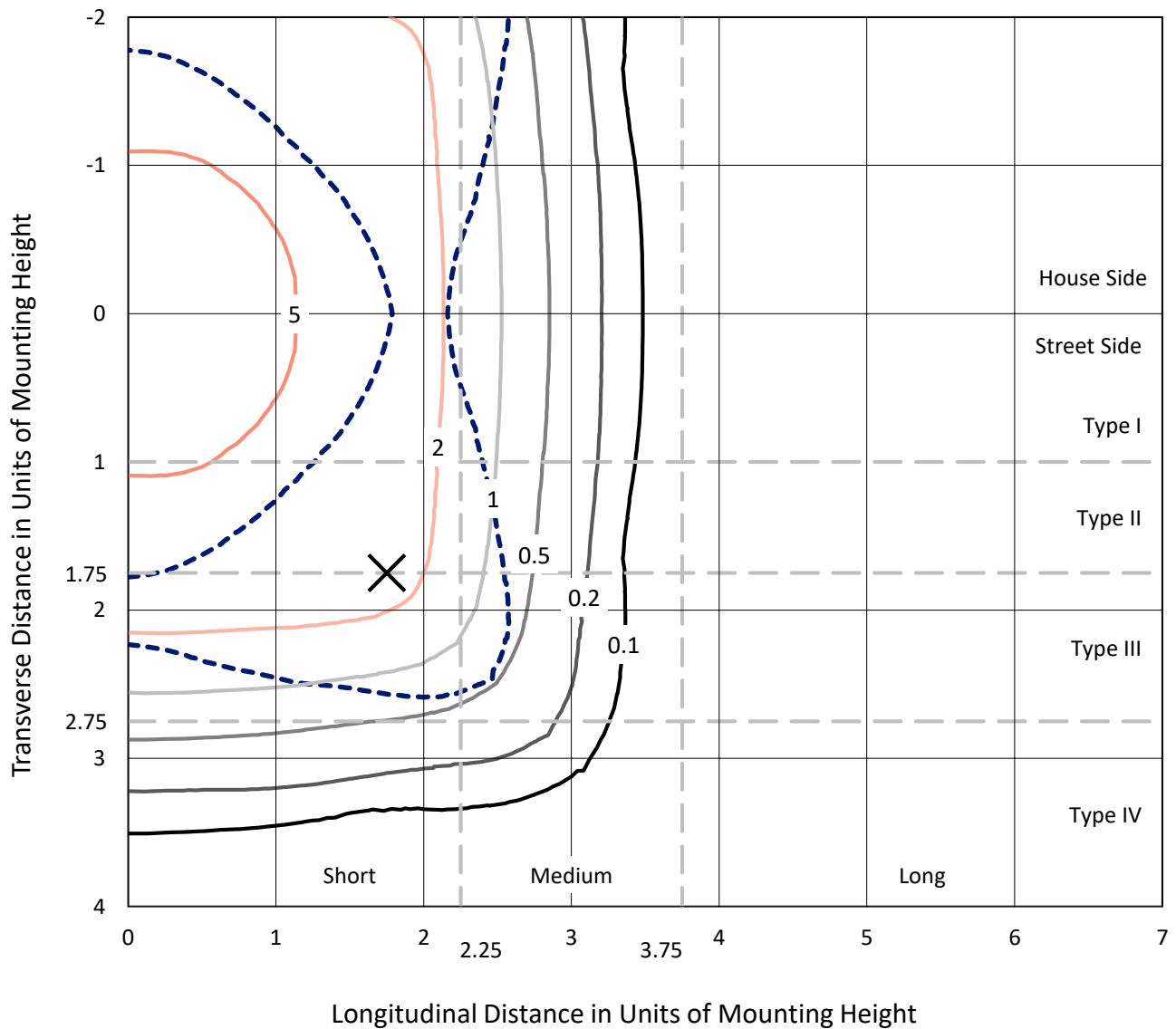
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P195914
 CATALOG NUMBER: NAV-AF-02-D-UNV-5MQ-600

Iso-Footcandle Lines of Horizontal Illumination

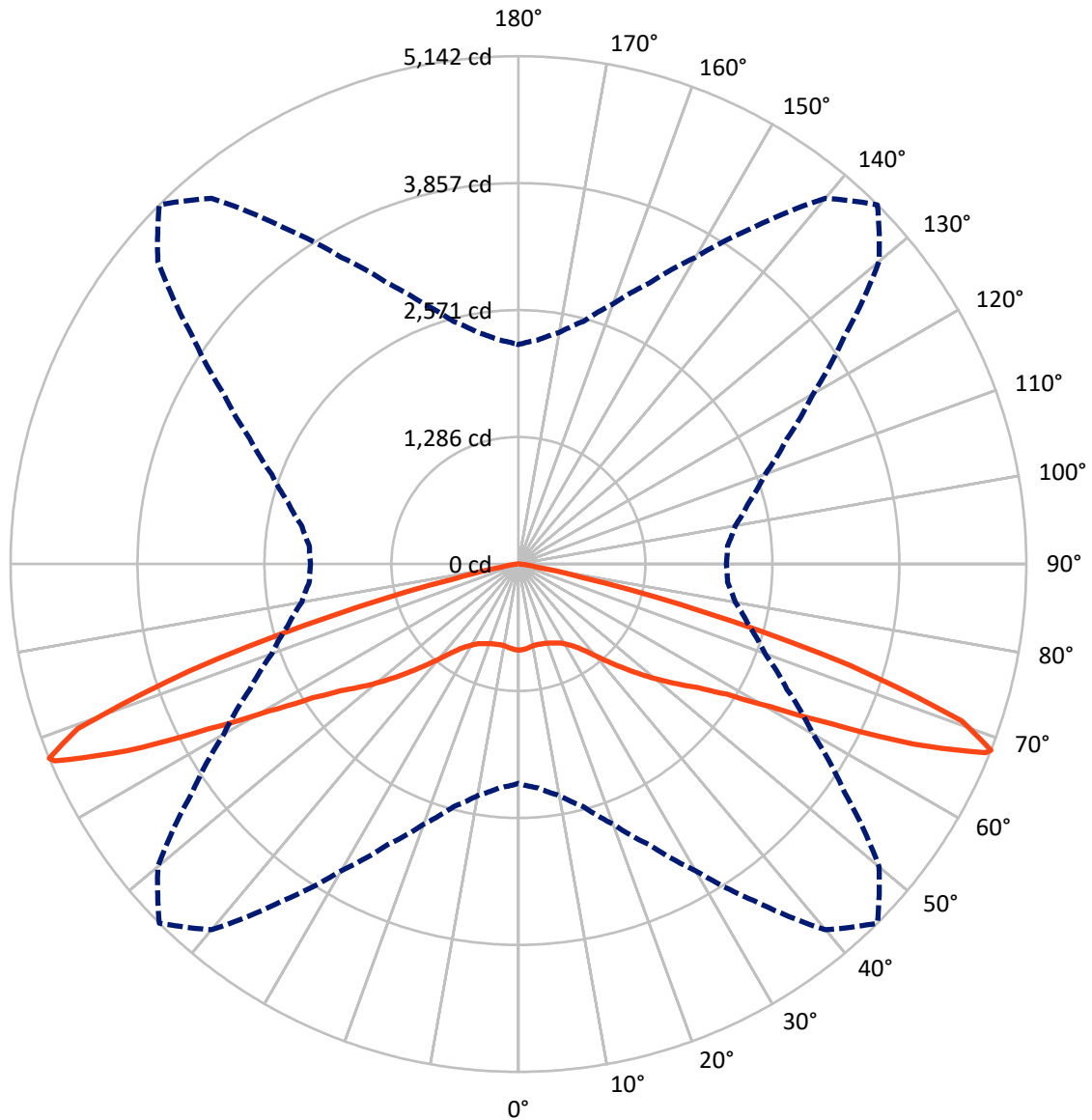
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 8.7 fc
 Type V - Short - Full Cutoff

REPORT NUMBER: P195914
CATALOG NUMBER: NAV-AF-02-D-UNV-5MQ-600

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	4371.6	0.0	4371.6
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	4371.6	0.0	4371.6
	% Fixture	50.0	0.0	50.0
Total	Lumens	8743.2	0.0	8743.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.6	0.9
10°-20°	236.7	2.7
20°-30°	402.4	4.6
30°-40°	658.5	7.5
40°-50°	1176.8	13.5
50°-60°	1987.5	22.7
60°-70°	3081.8	35.2
70°-80°	1059.6	12.1
80°-90°	58.2	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°	8743.2	100.0
0°-180°	8743.2	100.0



REPORT NUMBER: P195914

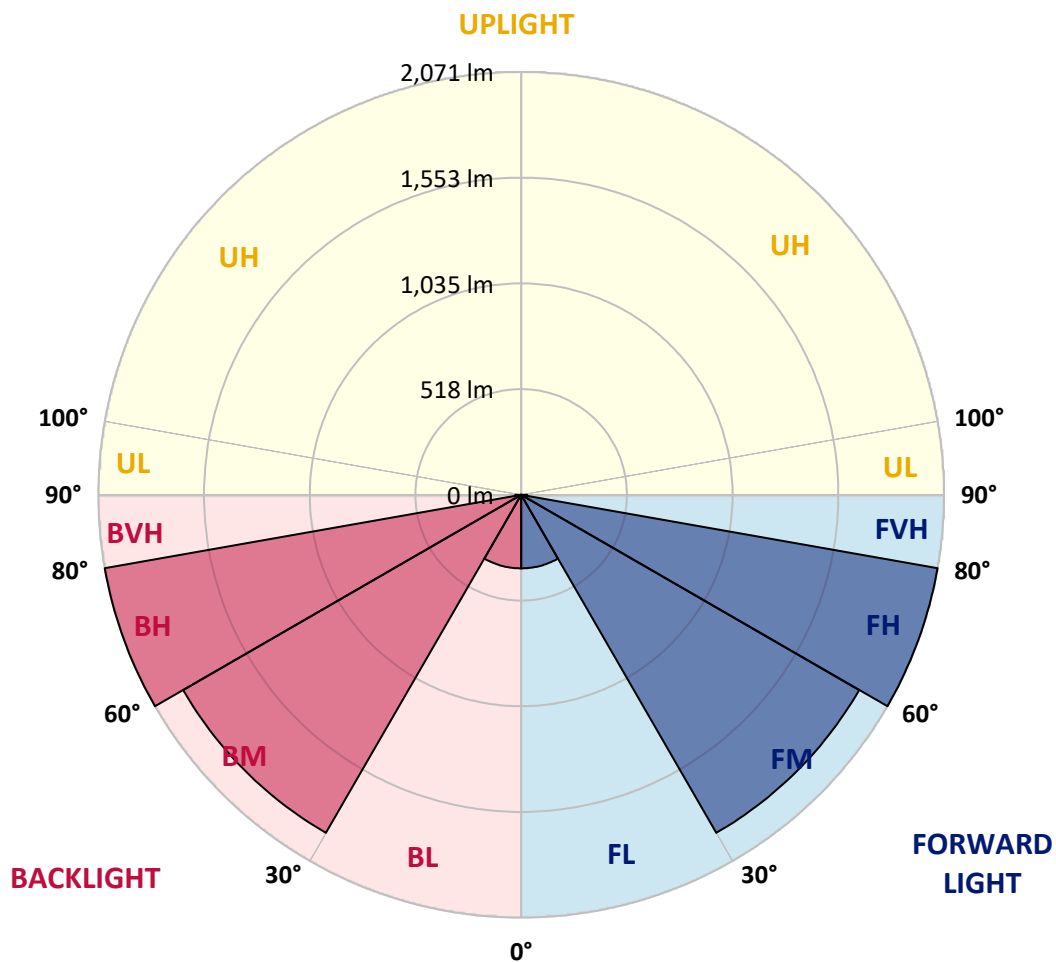
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	360.3	4.1			
FM	(30°-60°)	1911.4	21.9			
FH	(60°-80°)	2070.7	23.7			G2/5000
FVH	(80°-90°)	29.1	0.3			G1/100
BL	(0°-30°)	360.3	4.1	B1/500		
BM	(30°-60°)	1911.4	21.9	B2/2500		
BH	(60°-80°)	2070.7	23.7	B3/2500		G2/5000
BVH	(80°-90°)	29.1	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G2

Type V Short





REPORT NUMBER: P195914

CATALOG NUMBER: NAV-AF-02-D-UNV-5MQ-600

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	872.2	872.2	872.2	872.2	872.2	872.2	872.2	872.2	872.2	872.2	872.2
2.5°	876.0	876.0	877.0	876.5	874.8	873.2	871.7	870.0	868.9	867.9	866.8
5°	866.8	866.8	868.4	867.4	866.2	864.7	863.6	861.9	860.9	859.9	860.4
7.5°	855.0	856.1	857.1	856.6	854.5	854.0	852.3	851.8	850.8	849.2	849.7
10°	844.9	845.4	846.5	845.9	845.4	843.7	843.2	842.7	842.2	840.0	839.5
12.5°	834.7	835.8	836.8	837.4	836.8	837.4	837.9	838.4	837.9	836.8	836.8
15°	826.6	827.7	829.3	830.9	831.5	834.7	836.8	838.9	840.6	841.1	839.5
17.5°	822.4	824.0	826.1	829.3	832.0	835.8	839.5	842.7	845.4	845.9	844.3
20°	821.8	823.5	826.6	830.4	835.2	840.0	845.9	850.8	853.4	855.0	853.4
22.5°	825.6	827.7	832.0	836.8	842.7	849.2	856.6	861.9	867.4	869.5	867.9
25°	836.3	838.4	843.2	849.2	855.6	863.6	871.0	878.0	883.4	886.1	883.9
27.5°	858.8	859.3	864.7	871.0	878.6	885.6	895.2	898.4	902.7	905.3	902.7
30°	890.4	891.4	896.2	906.4	913.4	922.5	927.8	931.1	935.9	938.6	935.3
32.5°	938.6	939.6	943.9	953.5	959.9	966.9	973.3	975.5	980.3	983.6	979.8
35°	1006.6	1008.7	1012.4	1018.9	1024.2	1029.6	1034.4	1032.8	1035.9	1040.2	1036.6
37.5°	1099.7	1099.2	1100.2	1105.1	1110.4	1113.6	1121.2	1117.4	1120.5	1124.3	1122.2
40°	1208.4	1208.4	1207.8	1216.4	1218.5	1221.8	1229.8	1225.0	1229.3	1233.6	1229.8
42.5°	1332.1	1334.2	1336.9	1343.9	1349.7	1350.8	1354.6	1352.4	1357.8	1361.5	1357.8
45°	1474.5	1477.7	1480.9	1497.0	1499.6	1501.8	1504.5	1497.5	1503.4	1506.6	1505.5
47.5°	1622.2	1628.1	1635.1	1651.7	1662.4	1667.2	1669.4	1661.4	1661.9	1666.7	1667.2
50°	1789.2	1795.7	1802.6	1821.4	1831.6	1840.2	1842.8	1833.7	1834.8	1838.5	1839.6
52.5°	1943.5	1951.0	1966.0	1991.2	2005.6	2020.5	2021.7	2010.4	2015.2	2017.9	2015.7
55°	2088.6	2098.2	2118.0	2151.8	2178.0	2207.4	2220.8	2208.4	2208.4	2206.4	2205.3
57.5°	2257.8	2268.5	2288.9	2327.9	2364.3	2406.6	2443.0	2455.3	2477.8	2485.3	2473.5
60°	2512.6	2523.8	2544.7	2596.1	2642.2	2703.8	2763.7	2812.4	2891.7	2934.5	2896.0
62.5°	2745.5	2762.6	2811.9	2901.8	3001.4	3115.5	3247.7	3341.9	3485.9	3557.7	3460.7
65°	2692.5	2727.3	2823.7	2965.0	3170.6	3418.0	3687.2	3945.8	4243.5	4396.1	4199.1
67.5°	2352.0	2381.4	2485.3	2649.6	2906.1	3247.2	3665.8	4201.3	4815.3	5101.3	4752.7
68°	2221.8	2277.0	2380.4	2543.7	2802.3	3137.4	3584.4	4162.7	4833.0	5142.0	4765.5
70°	1703.6	1723.5	1822.5	1969.2	2248.1	2576.8	3028.1	3687.2	4444.8	4762.9	4375.8
72.5°	809.6	821.3	885.6	1030.1	1207.3	1475.0	1873.3	2495.0	3177.6	3508.4	3122.5
75°	296.7	299.3	314.3	348.5	414.9	515.6	706.8	1093.2	1618.5	1930.1	1625.0
77.5°	160.1	160.6	166.5	175.0	186.9	200.2	229.1	307.3	495.8	674.6	523.6
80°	100.7	100.1	106.0	112.9	121.0	127.5	130.1	139.2	156.9	183.6	168.7
82.5°	51.4	56.3	69.6	77.1	88.9	91.0	88.4	87.8	93.2	100.7	103.8
85°	28.3	25.2	36.9	49.3	53.5	55.1	55.6	52.5	51.4	50.3	53.0
87.5°	14.4	13.4	16.1	24.7	26.2	21.4	22.0	18.7	12.9	12.9	13.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P195914

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	872.2	872.2	872.2	872.2	872.2	872.2	872.2	872.2
2.5°	865.7	866.2	865.2	865.2	865.2	865.7	865.2	864.7
5°	858.8	859.9	859.9	860.4	860.9	860.9	860.9	860.9
7.5°	848.6	849.2	850.2	850.2	850.2	850.2	850.2	850.2
10°	838.9	837.9	837.4	836.3	836.3	834.7	835.2	835.8
12.5°	834.1	832.0	830.9	829.3	828.3	826.6	826.6	827.2
15°	836.3	833.1	829.8	828.8	827.7	826.6	825.6	826.1
17.5°	840.6	836.8	833.1	830.9	828.8	827.2	826.6	827.2
20°	849.7	844.3	838.4	834.7	830.4	829.3	827.7	829.3
22.5°	861.9	855.6	848.0	841.1	836.3	834.1	832.0	833.6
25°	877.0	870.0	862.6	854.5	849.2	847.5	844.9	844.9
27.5°	897.8	892.0	885.6	878.0	872.7	871.0	866.8	866.8
30°	931.1	925.2	919.2	912.9	907.5	905.9	900.5	900.5
32.5°	975.0	968.5	964.7	959.4	955.1	952.5	946.0	945.5
35°	1033.8	1028.0	1027.5	1023.7	1019.4	1019.9	1013.5	1012.4
37.5°	1118.4	1113.6	1115.2	1112.0	1108.3	1111.4	1107.8	1107.8
40°	1226.6	1225.0	1226.6	1224.5	1225.0	1225.5	1222.3	1223.3
42.5°	1357.3	1353.0	1362.6	1361.5	1359.9	1364.2	1356.6	1351.3
45°	1507.6	1506.1	1515.7	1517.3	1514.1	1516.7	1503.4	1502.8
47.5°	1671.0	1671.0	1679.5	1678.5	1675.3	1675.8	1659.7	1649.5
50°	1841.2	1840.2	1848.7	1846.5	1842.3	1841.7	1825.1	1815.0
52.5°	2018.4	2018.4	2030.8	2024.8	2014.7	2009.9	1989.5	1976.1
55°	2214.4	2211.7	2215.5	2196.2	2176.3	2161.9	2136.7	2126.6
57.5°	2462.2	2431.2	2404.4	2379.8	2352.0	2334.9	2305.4	2294.7
60°	2814.0	2731.1	2695.2	2646.0	2599.8	2576.8	2537.7	2516.9
62.5°	3301.3	3163.7	3066.2	2957.6	2852.6	2778.7	2719.3	2693.0
65°	3864.5	3564.7	3316.7	3083.9	2886.4	2729.4	2642.2	2614.9
67.5°	4078.6	3528.3	3100.5	2766.4	2526.5	2339.7	2235.2	2213.4
68°	4033.1	3444.7	3000.3	2658.2	2417.3	2228.8	2125.0	2105.1
70°	3557.7	2906.1	2437.1	2096.6	1871.7	1692.4	1619.0	1587.4
72.5°	2425.3	1866.4	1431.6	1145.2	977.1	863.6	796.2	773.1
75°	1116.3	754.3	503.8	376.3	319.7	292.4	271.5	266.1
77.5°	325.5	236.6	203.5	188.4	177.2	167.6	160.6	160.1
80°	154.8	145.1	140.8	131.1	121.0	111.9	105.5	106.6
82.5°	103.8	101.2	101.2	91.6	75.5	64.8	53.5	48.2
85°	55.1	57.3	60.5	57.3	49.8	36.9	24.1	26.2
87.5°	18.7	21.4	22.5	22.0	19.8	15.0	11.3	11.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)