

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: P195968

Luminaire Tested: **NAV-AF-02-D-UNV-5WQ-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195968
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24131)
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-5WQ-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10473 lumens
Efficiency: N/A
Efficacy: 123.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type V - Short - Semi-Cutoff
BUG Rating: B4 - U0 - G2

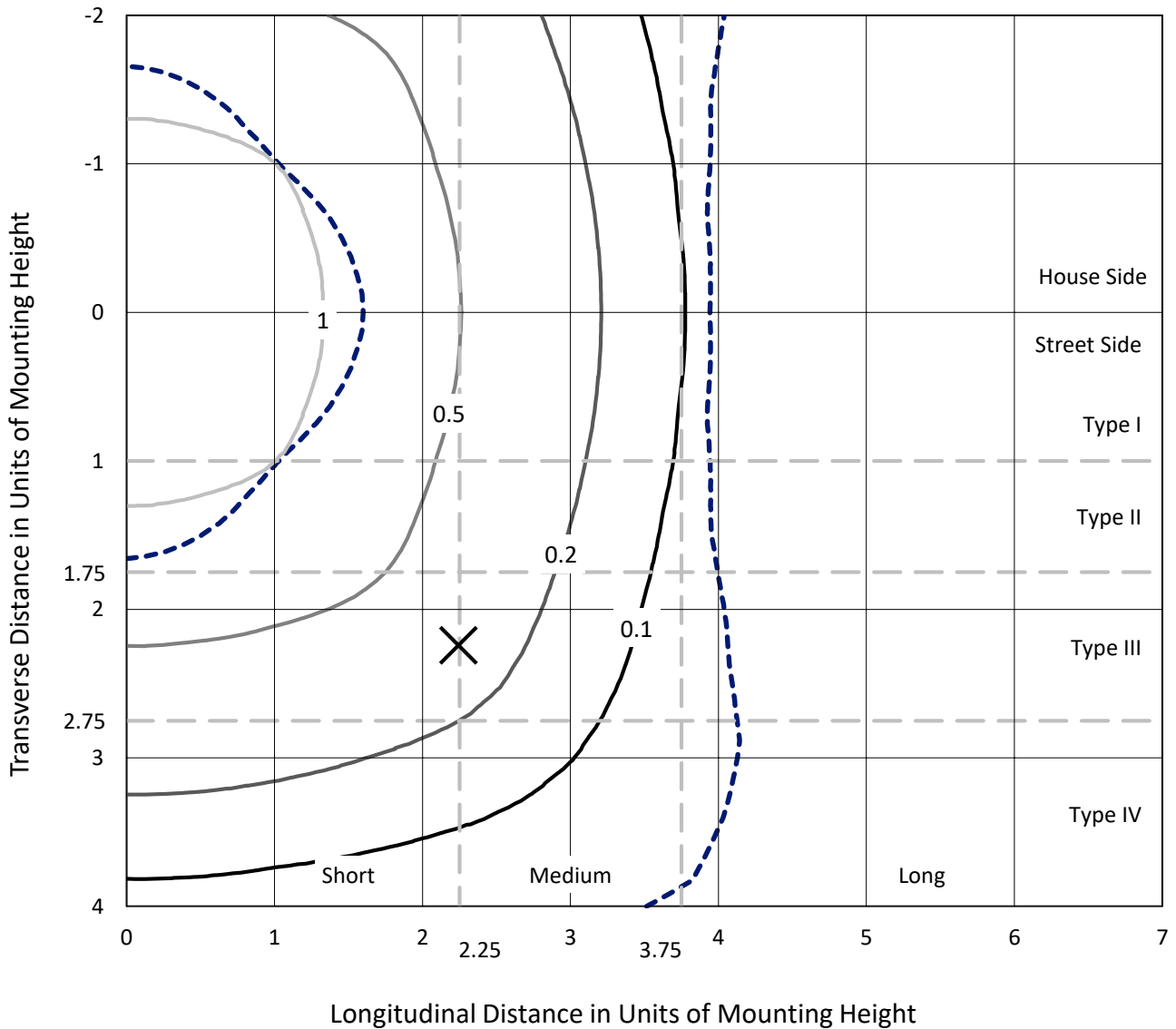
Input Watts (W): 85
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

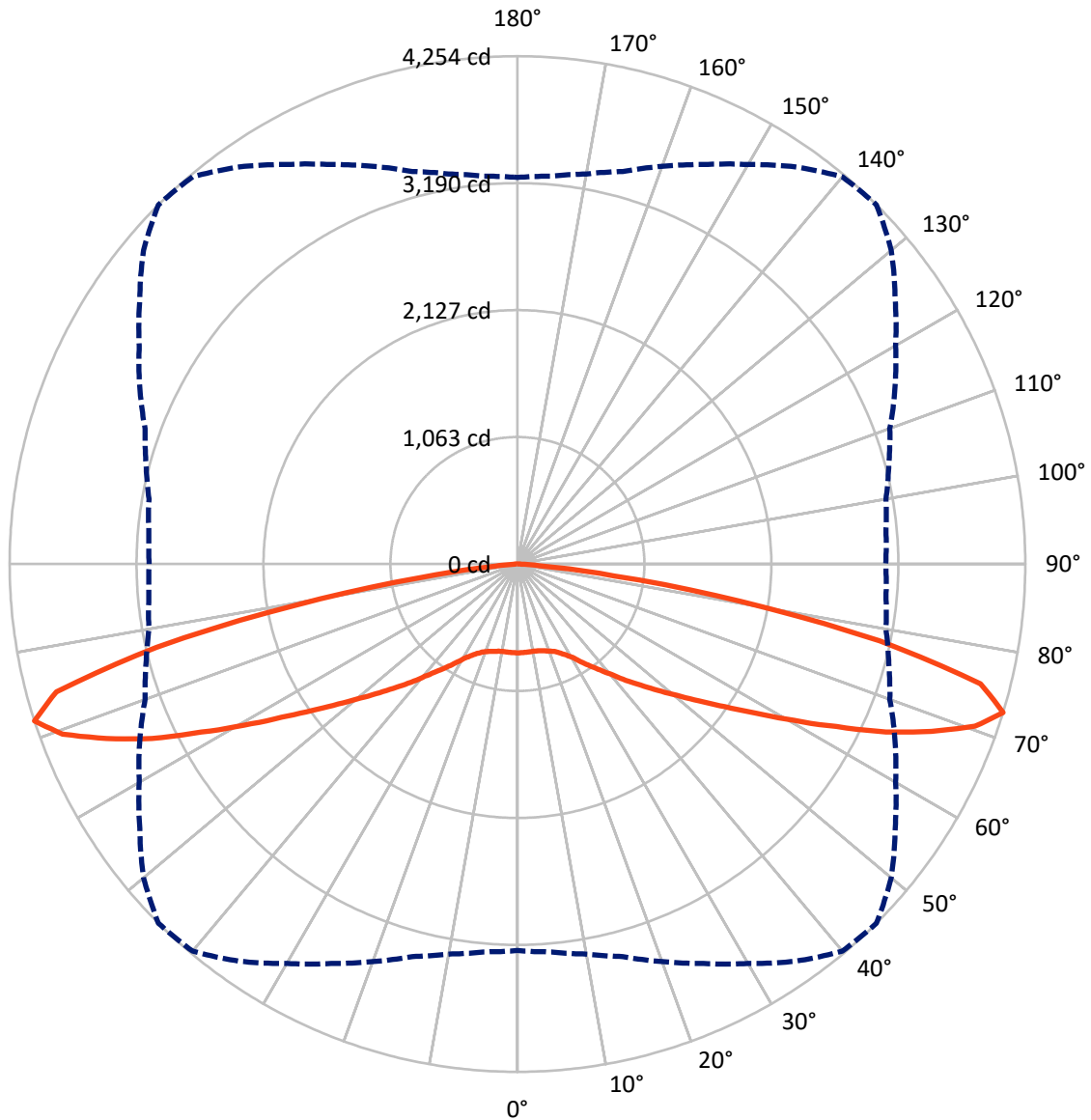
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 1.9 fc
 Type V - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5236.5	0.0	5236.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	5236.5	0.0	5236.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	10473.0	0.0	10473.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	71.1	0.7
10°-20°	215.1	2.1
20°-30°	388.3	3.7
30°-40°	662.3	6.3
40°-50°	1127.6	10.8
50°-60°	1814.6	17.3
60°-70°	3017.8	28.8
70°-80°	2919.4	27.9
80°-90°	256.9	2.5
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°	10473.0	100.0
0°-180°	10473.0	100.0



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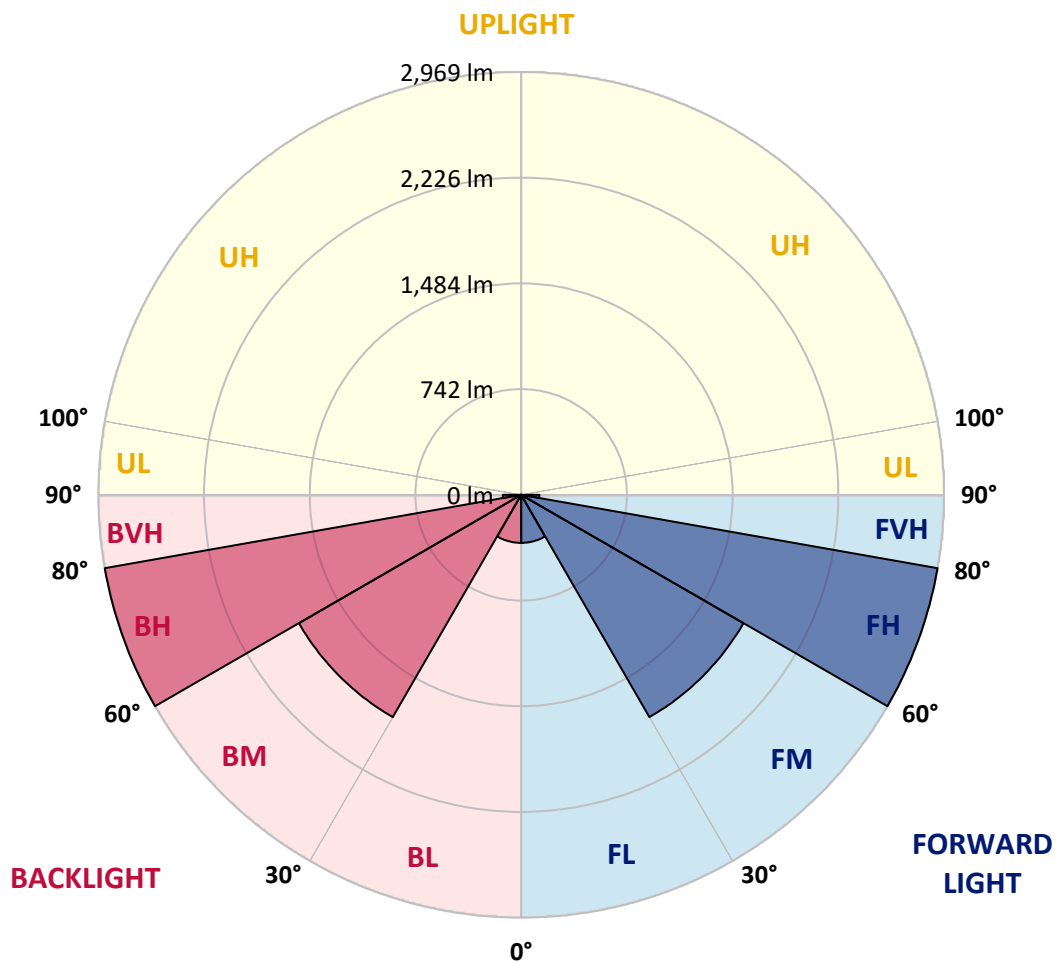
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	337.2	3.2			
FM	(30°-60°)	1802.2	17.2			
FH	(60°-80°)	2968.6	28.3			G2/5000
FVH	(80°-90°)	128.5	1.2			G2/225
BL	(0°-30°)	337.2	3.2	B1/500		
BM	(30°-60°)	1802.2	17.2	B2/2500		
BH	(60°-80°)	2968.6	28.3	B4/5000		G2/5000
BVH	(80°-90°)	128.5	1.2			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G2

Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	744.5	744.5	744.5	744.5	744.5	744.5	744.5	744.5	744.5	744.5	744.5
2.5°	750.3	750.3	750.9	750.3	749.1	748.4	746.4	745.2	743.9	743.3	741.9
5°	750.9	750.9	751.7	750.9	749.7	748.4	747.2	745.2	743.9	742.7	741.9
7.5°	753.6	754.2	754.8	754.2	751.7	750.3	748.4	746.4	743.9	742.7	741.3
10°	758.7	758.7	758.7	758.1	756.2	753.6	750.9	749.1	745.8	742.7	740.7
12.5°	762.6	763.2	763.2	762.0	759.3	756.2	753.6	751.7	749.1	746.4	744.5
15°	768.4	768.4	767.7	765.2	761.3	758.7	757.4	756.8	756.2	754.8	752.9
17.5°	780.0	779.4	777.4	773.6	769.1	767.1	765.8	765.8	765.8	765.2	763.9
20°	796.8	796.8	794.2	787.8	783.9	781.9	780.0	780.0	780.0	778.1	776.1
22.5°	823.9	824.5	820.6	812.8	807.7	803.8	801.3	799.3	797.4	796.2	792.9
25°	860.6	859.9	855.4	845.8	841.9	838.0	832.9	829.6	827.1	825.1	821.2
27.5°	899.3	898.7	893.4	885.1	882.5	876.7	872.8	868.3	865.1	861.8	858.1
30°	948.9	945.7	941.8	935.4	934.1	929.6	924.4	918.0	912.8	907.7	903.2
32.5°	993.4	993.4	987.6	984.4	986.9	985.0	985.6	981.7	978.6	976.6	972.1
35°	1055.3	1055.3	1052.7	1048.8	1049.4	1044.9	1044.3	1044.9	1047.5	1047.5	1042.4
37.5°	1137.7	1139.1	1130.7	1129.4	1126.2	1119.7	1116.6	1117.8	1123.6	1126.8	1119.7
40°	1240.2	1242.9	1240.2	1231.9	1228.1	1217.1	1210.7	1210.7	1215.2	1218.3	1215.8
42.5°	1341.5	1346.0	1341.5	1335.1	1331.8	1323.4	1320.2	1322.8	1328.6	1332.5	1328.6
45°	1454.3	1457.5	1451.7	1444.0	1440.1	1435.6	1433.7	1435.6	1442.1	1445.9	1444.6
47.5°	1565.1	1569.7	1562.6	1559.4	1559.4	1554.9	1560.0	1565.1	1570.9	1579.9	1576.2
50°	1673.4	1679.3	1674.8	1675.4	1680.6	1688.9	1698.6	1708.9	1719.3	1728.9	1730.2
52.5°	1770.1	1779.2	1779.8	1791.4	1807.6	1820.4	1847.6	1870.1	1894.6	1903.0	1899.1
55°	1872.0	1884.3	1900.3	1918.4	1944.2	1970.6	2016.4	2057.1	2089.3	2109.2	2106.1
57.5°	2017.7	2029.9	2046.7	2076.4	2115.1	2151.2	2213.7	2276.9	2325.8	2356.2	2341.3
60°	2206.6	2219.5	2241.4	2273.0	2323.2	2372.2	2457.9	2548.9	2624.9	2659.8	2632.7
62.5°	2456.7	2468.9	2483.1	2525.1	2581.1	2644.3	2751.9	2868.7	2965.3	2998.8	2960.8
65°	2813.2	2828.0	2832.6	2866.7	2921.4	2980.2	3096.2	3227.7	3337.9	3392.7	3316.6
67.5°	3214.8	3220.6	3238.7	3278.6	3334.7	3387.5	3479.1	3603.4	3709.2	3739.5	3658.3
70°	3450.1	3461.7	3493.3	3548.7	3615.7	3698.9	3798.8	3932.9	4052.8	4066.9	3963.8
72.5°	3237.3	3261.2	3317.2	3403.7	3544.2	3691.8	3863.9	4061.8	4233.9	4253.9	4088.2
75°	2596.6	2623.7	2690.7	2785.5	2951.7	3170.9	3419.7	3717.0	3974.8	4007.7	3788.5
77.5°	1384.1	1417.5	1514.9	1642.6	1879.8	2169.8	2469.6	2808.6	3027.8	3102.0	2944.1
80°	348.7	366.8	413.9	488.7	649.2	883.1	1141.6	1506.5	1778.5	1893.9	1778.5
82.5°	135.3	148.9	161.8	170.8	186.3	218.5	301.7	491.8	662.7	816.1	706.6
85°	52.2	55.4	79.9	90.9	90.9	99.9	114.8	135.3	167.6	183.1	153.4
87.5°	20.7	22.6	27.7	42.6	43.9	38.7	41.2	46.4	35.5	29.7	33.6
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°	744.5	744.5	744.5	744.5	744.5	744.5	744.5	744.5
2.5°	741.3	740.7	739.4	740.0	739.4	739.4	739.4	739.4
5°	740.7	740.7	739.4	739.4	739.4	740.0	739.4	739.4
7.5°	740.0	739.4	738.1	737.4	737.4	736.8	736.8	736.8
10°	738.8	737.4	736.2	735.5	735.5	734.3	734.3	734.3
12.5°	741.9	740.0	738.8	738.1	738.1	738.1	738.8	738.8
15°	750.9	747.2	745.2	744.5	745.2	746.4	747.2	747.8
17.5°	760.7	756.8	753.6	752.3	752.9	754.8	756.8	758.1
20°	772.9	769.7	765.8	764.6	764.6	767.1	768.4	770.4
22.5°	790.3	787.8	784.5	782.6	781.3	784.5	786.4	787.8
25°	818.1	815.5	812.8	811.0	810.3	813.6	814.8	815.5
27.5°	854.8	852.2	850.9	850.3	848.3	849.7	851.6	850.9
30°	902.4	904.4	902.4	902.4	899.3	900.5	899.3	897.9
32.5°	966.3	964.3	958.6	954.7	950.2	950.2	948.3	946.3
35°	1030.1	1023.7	1020.5	1022.3	1020.5	1021.7	1018.6	1015.3
37.5°	1105.5	1101.7	1101.0	1106.8	1105.5	1106.8	1106.8	1102.3
40°	1205.4	1202.9	1207.4	1217.1	1220.9	1220.3	1221.6	1215.8
42.5°	1320.2	1315.7	1317.7	1326.1	1330.6	1331.8	1331.2	1326.1
45°	1435.0	1436.2	1436.2	1445.2	1449.7	1452.4	1447.9	1445.9
47.5°	1564.5	1566.4	1561.9	1567.8	1569.0	1573.5	1569.7	1566.4
50°	1714.1	1707.0	1696.7	1698.6	1698.6	1697.3	1692.8	1688.9
52.5°	1881.0	1864.9	1845.6	1839.2	1832.0	1824.9	1815.9	1808.9
55°	2071.2	2043.4	2008.7	1992.6	1979.0	1962.9	1942.3	1935.2
57.5°	2291.7	2243.9	2197.5	2168.6	2133.8	2112.5	2086.0	2084.8
60°	2553.4	2488.9	2407.1	2363.8	2329.1	2303.9	2283.9	2276.2
62.5°	2855.7	2744.9	2656.5	2610.2	2569.6	2554.0	2528.9	2532.1
65°	3165.8	3053.0	2967.3	2929.8	2891.8	2881.6	2858.3	2866.7
67.5°	3501.7	3408.8	3314.7	3279.9	3245.1	3234.8	3210.9	3218.0
70°	3802.7	3684.7	3577.7	3509.3	3450.1	3402.3	3372.1	3359.8
72.5°	3862.7	3658.3	3490.0	3319.2	3220.6	3134.2	3098.7	3085.2
75°	3470.7	3153.6	2913.8	2713.3	2602.4	2476.7	2463.2	2444.4
77.5°	2699.7	2338.8	2048.7	1790.8	1641.8	1488.5	1435.6	1395.6
80°	1610.3	1237.7	959.2	672.4	548.6	441.6	415.1	387.4
82.5°	576.3	369.4	248.8	194.1	173.4	159.9	149.6	136.1
85°	139.2	117.3	110.9	100.6	99.2	84.5	59.9	53.5
87.5°	44.5	40.6	41.2	39.3	41.2	30.9	25.2	22.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)