

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: P196934

Luminaire Tested: **NAV-AF-02-D-UNV-5WQ-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196934
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-8030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 80 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10340 lumens
Efficiency: N/A
Efficacy: 91.5 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): 113
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

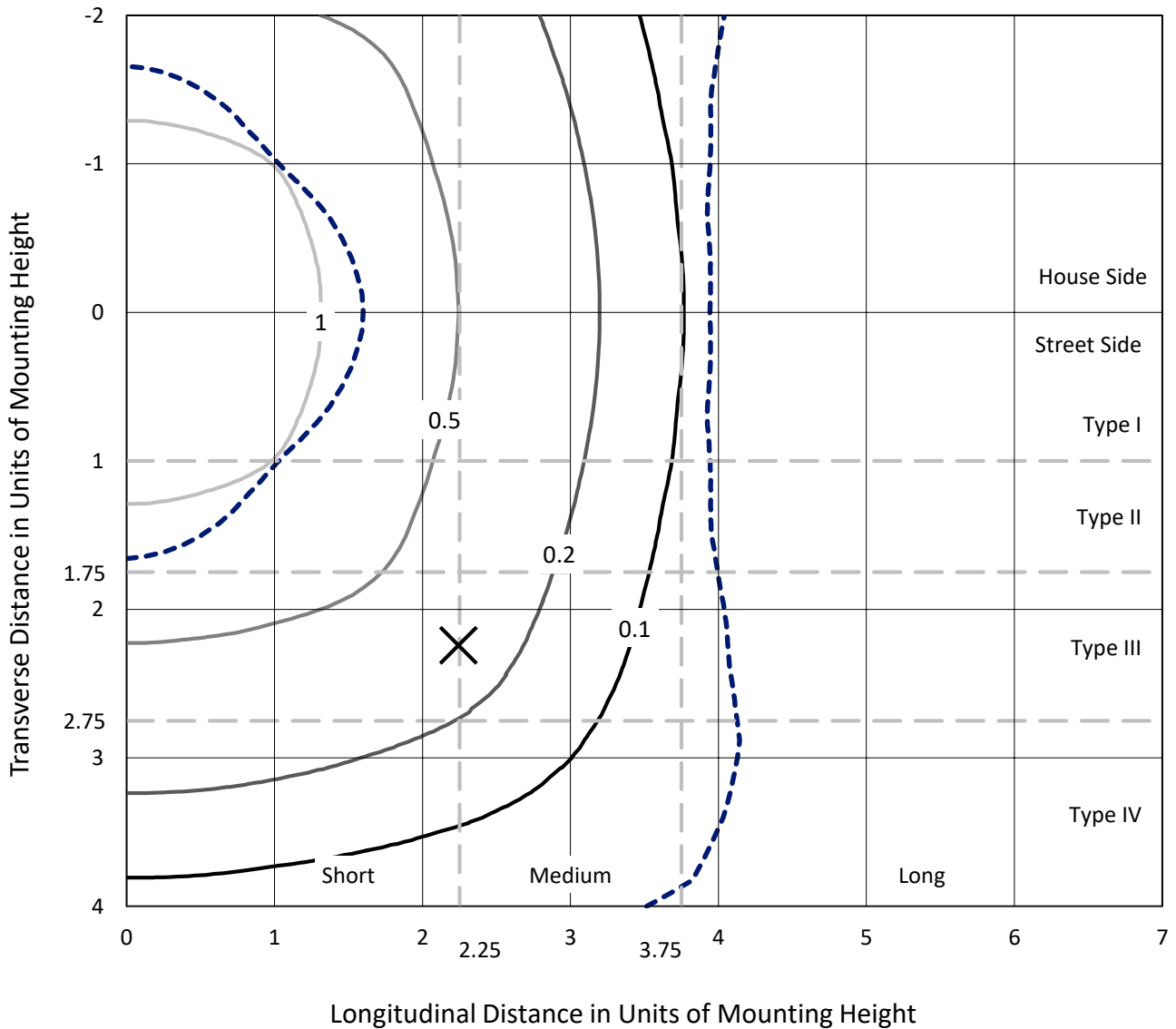


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

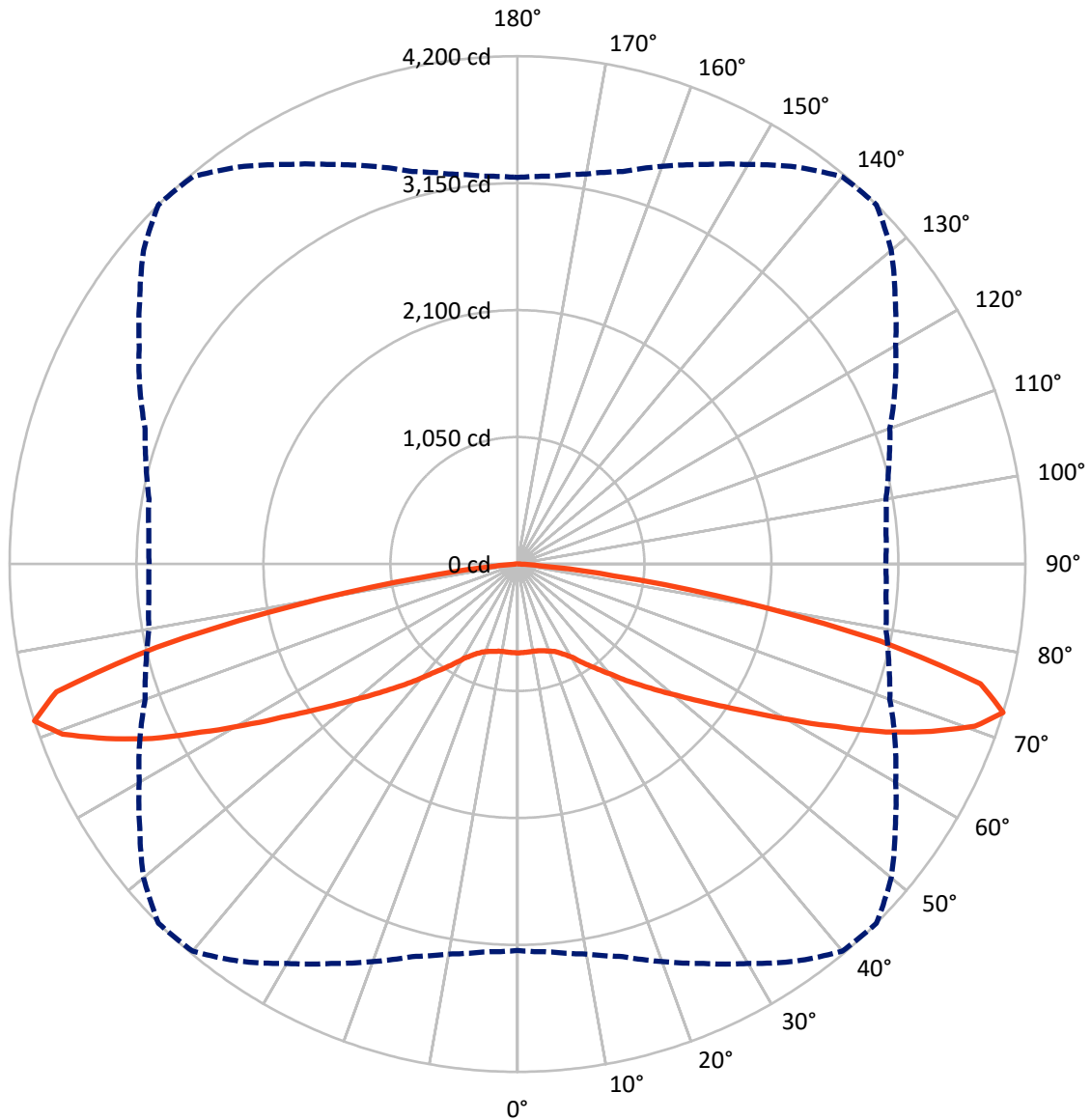


Based on 20 foot mounting height. Maximum calculated value = 1.8 fc
 Type V - Short - Semi-Cutoff

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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	5170.0	0.0	5170.0
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	5170.0	0.0	5170.0
	% Fixture	50.0	0.0	50.0
Total	Lumens	10340.0	0.0	10340.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	70.2	0.7
10°-20°	212.3	2.1
20°-30°	383.3	3.7
30°-40°	653.9	6.3
40°-50°	1113.2	10.8
50°-60°	1791.6	17.3
60°-70°	2979.5	28.8
70°-80°	2882.3	27.9
80°-90°	253.7	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°	10340.0	100.0
0°-180°	10340.0	100.0



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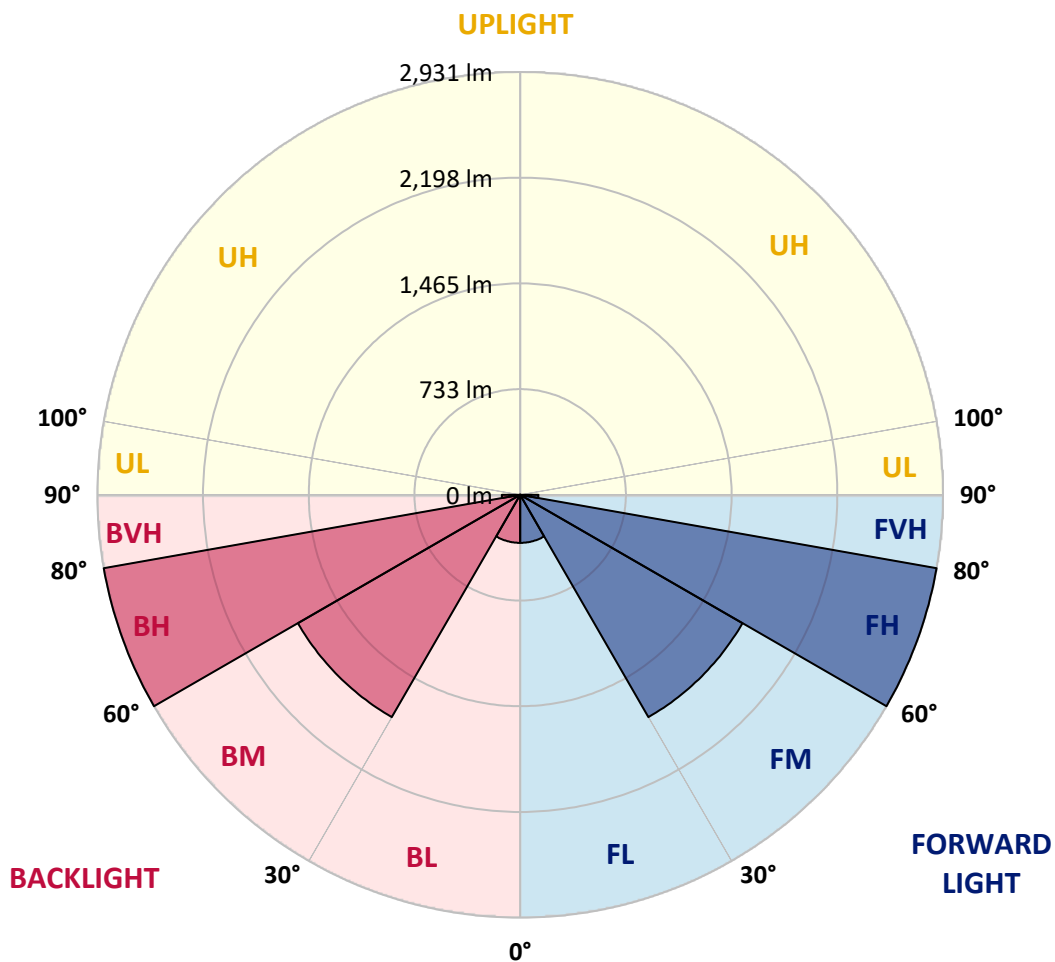
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	332.9	3.2			
FM	(30°-60°)	1779.4	17.2			
FH	(60°-80°)	2930.9	28.3			G2/5000
FVH	(80°-90°)	126.8	1.2			G2/225
BL	(0°-30°)	332.9	3.2	B1/500		
BM	(30°-60°)	1779.4	17.2	B2/2500		
BH	(60°-80°)	2930.9	28.3	B4/5000		G2/5000
BVH	(80°-90°)	126.8	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°	735.1	735.1	735.1	735.1	735.1	735.1	735.1	735.1	735.1	735.1	735.1
2.5°	740.8	740.8	741.5	740.8	739.6	738.9	737.0	735.7	734.5	733.8	732.6
5°	741.5	741.5	742.1	741.5	740.2	738.9	737.6	735.7	734.5	733.2	732.6
7.5°	744.0	744.6	745.3	744.6	742.1	740.8	738.9	737.0	734.5	733.2	731.9
10°	749.1	749.1	749.1	748.5	746.6	744.0	741.5	739.6	736.4	733.2	731.3
12.5°	752.9	753.6	753.6	752.3	749.7	746.6	744.0	742.1	739.6	737.0	735.1
15°	758.6	758.6	758.0	755.5	751.6	749.1	747.8	747.2	746.6	745.3	743.4
17.5°	770.1	769.5	767.6	763.7	759.3	757.4	756.1	756.1	756.1	755.5	754.2
20°	786.6	786.6	784.1	777.7	773.9	772.0	770.1	770.1	770.1	768.2	766.3
22.5°	813.4	814.0	810.2	802.6	797.5	793.6	791.1	789.2	787.3	786.0	782.8
25°	849.7	849.0	844.6	835.0	831.2	827.4	822.3	819.1	816.6	814.7	810.8
27.5°	887.8	887.2	882.1	873.8	871.3	865.6	861.7	857.3	854.1	850.9	847.1
30°	936.9	933.7	929.8	923.5	922.2	917.8	912.7	906.3	901.2	896.1	891.7
32.5°	980.8	980.8	975.0	971.9	974.4	972.5	973.1	969.3	966.1	964.2	959.8
35°	1041.9	1041.9	1039.3	1035.5	1036.1	1031.7	1031.0	1031.7	1034.2	1034.2	1029.1
37.5°	1123.3	1124.6	1116.3	1115.1	1111.9	1105.5	1102.3	1103.6	1109.3	1112.5	1105.5
40°	1224.5	1227.1	1224.5	1216.3	1212.4	1201.6	1195.2	1195.2	1199.7	1202.9	1200.3
42.5°	1324.4	1328.9	1324.4	1318.1	1314.9	1306.6	1303.4	1306.0	1311.7	1315.5	1311.7
45°	1435.8	1439.0	1433.3	1425.6	1421.8	1417.4	1415.5	1417.4	1423.7	1427.6	1426.3
47.5°	1545.3	1549.7	1542.7	1539.6	1539.6	1535.1	1540.2	1545.3	1551.0	1559.9	1556.1
50°	1652.2	1657.9	1653.5	1654.1	1659.2	1667.5	1677.0	1687.2	1697.4	1707.0	1708.2
52.5°	1747.7	1756.6	1757.2	1768.7	1784.6	1797.3	1824.1	1846.3	1870.5	1878.8	1875.0
55°	1848.2	1860.3	1876.2	1894.1	1919.5	1945.6	1990.8	2030.9	2062.7	2082.5	2079.3
57.5°	1992.1	2004.2	2020.7	2050.0	2088.2	2123.8	2185.6	2247.9	2296.3	2326.2	2311.6
60°	2178.6	2191.3	2212.9	2244.1	2293.8	2342.1	2426.8	2516.5	2591.6	2626.0	2599.2
62.5°	2425.5	2437.6	2451.6	2493.0	2548.3	2610.7	2717.0	2832.2	2927.7	2960.8	2923.2
65°	2777.5	2792.1	2796.5	2830.3	2884.4	2942.3	3056.9	3186.7	3295.5	3349.6	3274.5
67.5°	3174.0	3179.7	3197.5	3237.0	3292.3	3344.5	3434.9	3557.7	3662.1	3692.0	3611.8
70°	3406.3	3417.7	3448.9	3503.6	3569.8	3651.9	3750.6	3883.0	4001.3	4015.3	3913.5
72.5°	3196.2	3219.8	3275.2	3360.4	3499.2	3644.9	3814.9	4010.3	4180.2	4199.9	4036.3
75°	2563.6	2590.3	2656.5	2750.1	2914.3	3130.7	3376.4	3669.8	3924.3	3956.8	3740.4
77.5°	1366.5	1399.5	1495.7	1621.7	1855.9	2142.3	2438.2	2773.0	2989.4	3062.6	2906.7
80°	344.3	362.1	408.6	482.4	640.9	871.9	1127.1	1487.4	1756.0	1869.9	1756.0
82.5°	133.7	147.0	159.7	168.7	183.9	215.8	297.9	485.6	654.3	805.7	697.5
85°	51.6	54.7	78.9	89.7	89.7	98.6	113.3	133.7	165.5	180.8	151.5
87.5°	20.4	22.3	27.4	42.0	43.3	38.2	40.7	45.8	35.0	29.3	33.1
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°	735.1	735.1	735.1	735.1	735.1	735.1	735.1	735.1
2.5°	731.9	731.3	730.0	730.6	730.0	730.0	730.0	730.0
5°	731.3	731.3	730.0	730.0	730.0	730.6	730.0	730.0
7.5°	730.6	730.0	728.7	728.1	728.1	727.5	727.5	727.5
10°	729.4	728.1	726.8	726.2	726.2	724.9	724.9	724.9
12.5°	732.6	730.6	729.4	728.7	728.7	728.7	729.4	729.4
15°	741.5	737.6	735.7	735.1	735.7	737.0	737.6	738.3
17.5°	751.0	747.2	744.0	742.7	743.4	745.3	747.2	748.5
20°	763.1	759.9	756.1	754.8	754.8	757.4	758.6	760.6
22.5°	780.3	777.7	774.6	772.6	771.4	774.6	776.5	777.7
25°	807.7	805.1	802.6	800.7	800.0	803.2	804.5	805.1
27.5°	843.9	841.4	840.1	839.5	837.6	838.8	840.7	840.1
30°	891.0	892.9	891.0	891.0	887.8	889.1	887.8	886.6
32.5°	954.0	952.1	946.4	942.6	938.1	938.1	936.2	934.3
35°	1017.0	1010.7	1007.5	1009.4	1007.5	1008.8	1005.6	1002.4
37.5°	1091.5	1087.7	1087.1	1092.8	1091.5	1092.8	1092.8	1088.3
40°	1190.2	1187.6	1192.1	1201.6	1205.4	1204.8	1206.1	1200.3
42.5°	1303.4	1299.0	1300.9	1309.2	1313.6	1314.9	1314.3	1309.2
45°	1416.7	1418.0	1418.0	1426.9	1431.4	1433.9	1429.5	1427.6
47.5°	1544.7	1546.6	1542.1	1547.8	1549.1	1553.6	1549.7	1546.6
50°	1692.3	1685.3	1675.1	1677.0	1677.0	1675.8	1671.3	1667.5
52.5°	1857.2	1841.2	1822.1	1815.8	1808.8	1801.8	1792.9	1785.9
55°	2044.9	2017.5	1983.2	1967.3	1953.9	1938.0	1917.6	1910.6
57.5°	2262.6	2215.5	2169.6	2141.0	2106.6	2085.6	2059.5	2058.3
60°	2521.0	2457.3	2376.5	2333.9	2299.5	2274.7	2254.9	2247.3
62.5°	2819.5	2710.0	2622.8	2577.0	2536.9	2521.6	2496.8	2500.0
65°	3125.6	3014.2	2929.6	2892.7	2855.1	2844.9	2822.0	2830.3
67.5°	3457.2	3365.5	3272.6	3238.2	3203.9	3193.7	3170.1	3177.1
70°	3754.4	3637.9	3532.3	3464.8	3406.3	3359.2	3329.3	3317.2
72.5°	3813.6	3611.8	3445.7	3277.1	3179.7	3094.4	3059.4	3046.0
75°	3426.6	3113.5	2876.7	2678.8	2569.3	2445.2	2431.9	2413.4
77.5°	2665.4	2309.0	2022.6	1768.0	1621.0	1469.6	1417.4	1377.9
80°	1589.8	1222.0	947.0	663.8	541.6	436.0	409.9	382.5
82.5°	569.0	364.7	245.7	191.6	171.2	157.8	147.7	134.3
85°	137.5	115.8	109.5	99.3	98.0	83.4	59.2	52.8
87.5°	43.9	40.1	40.7	38.8	40.7	30.5	24.8	22.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)