

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: P195020

Luminaire Tested: **NAV-AF-02-D-UNV-5WQ-7060-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195020
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-7060-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13901 lumens
Efficiency: N/A
Efficacy: 107.8 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): 129
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

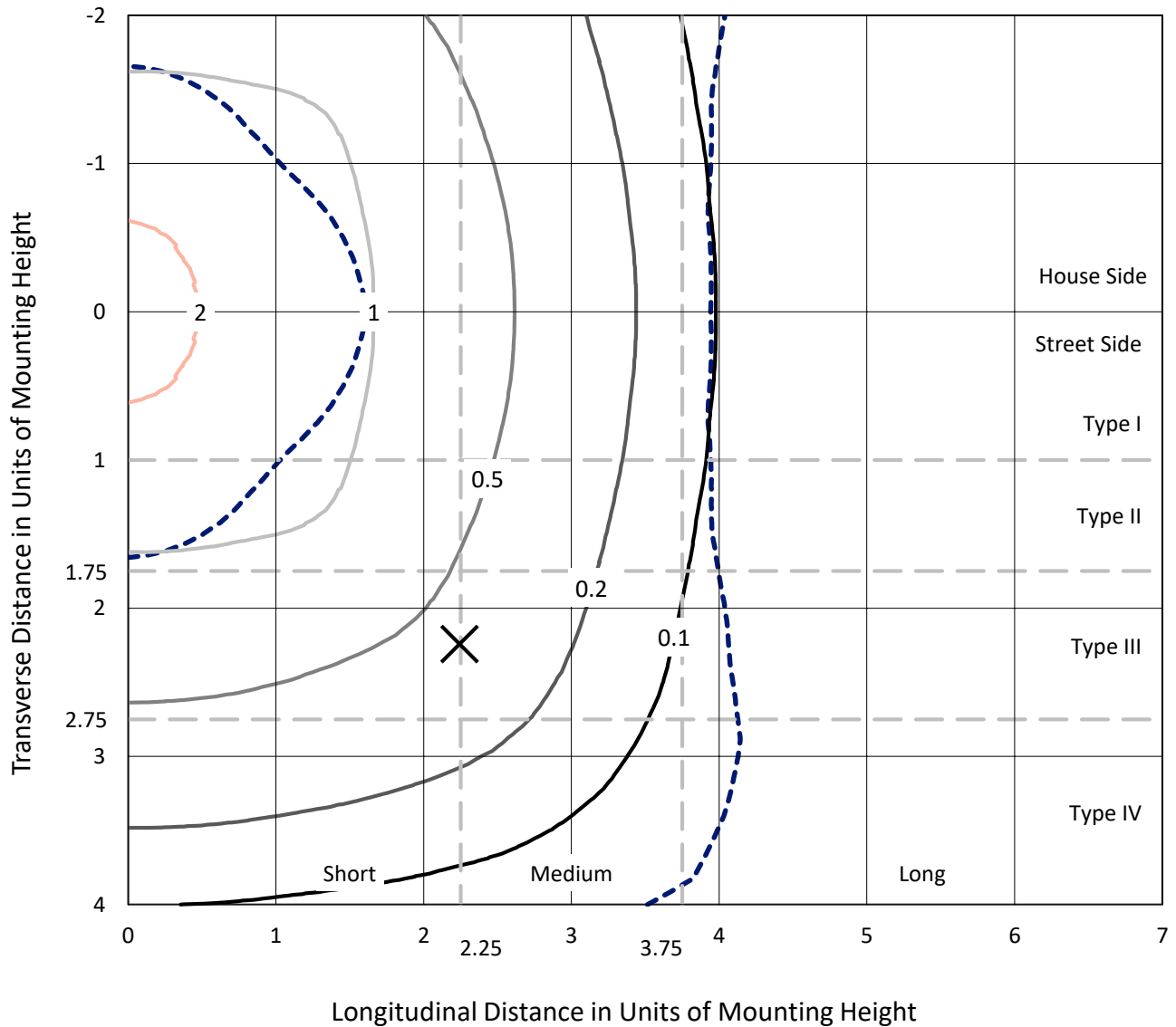


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Iso-Footcandle Lines of Horizontal Illumination

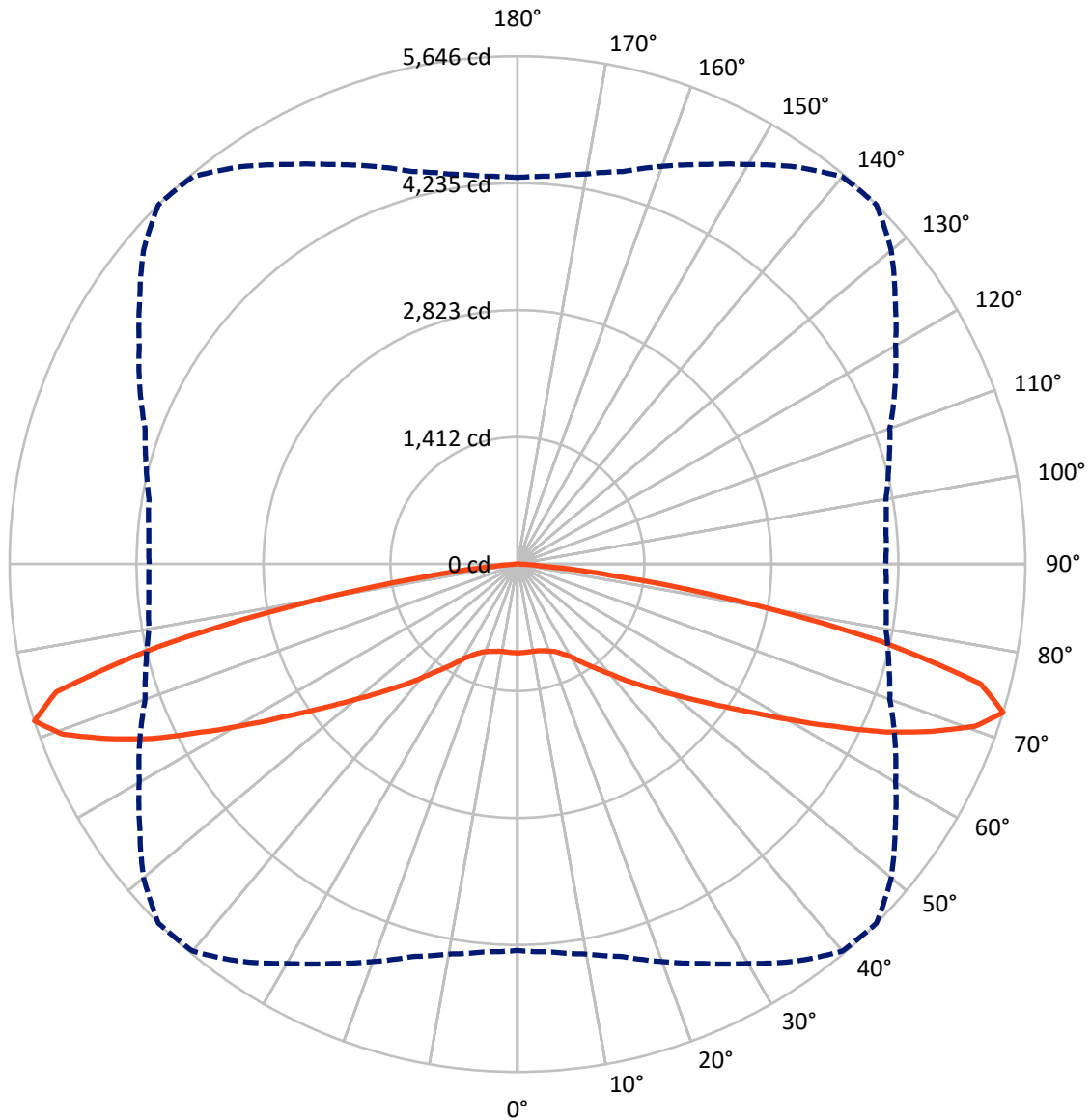
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 2.5 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	6950.5	0.0	6950.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	6950.5	0.0	6950.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	13901.0	0.0	13901.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.3	0.7
10°-20°	285.5	2.1
20°-30°	515.4	3.7
30°-40°	879.1	6.3
40°-50°	1496.6	10.8
50°-60°	2408.6	17.3
60°-70°	4005.6	28.8
70°-80°	3874.9	27.9
80°-90°	341.0	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°	13901.0	100.0
0°-180°	13901.0	100.0



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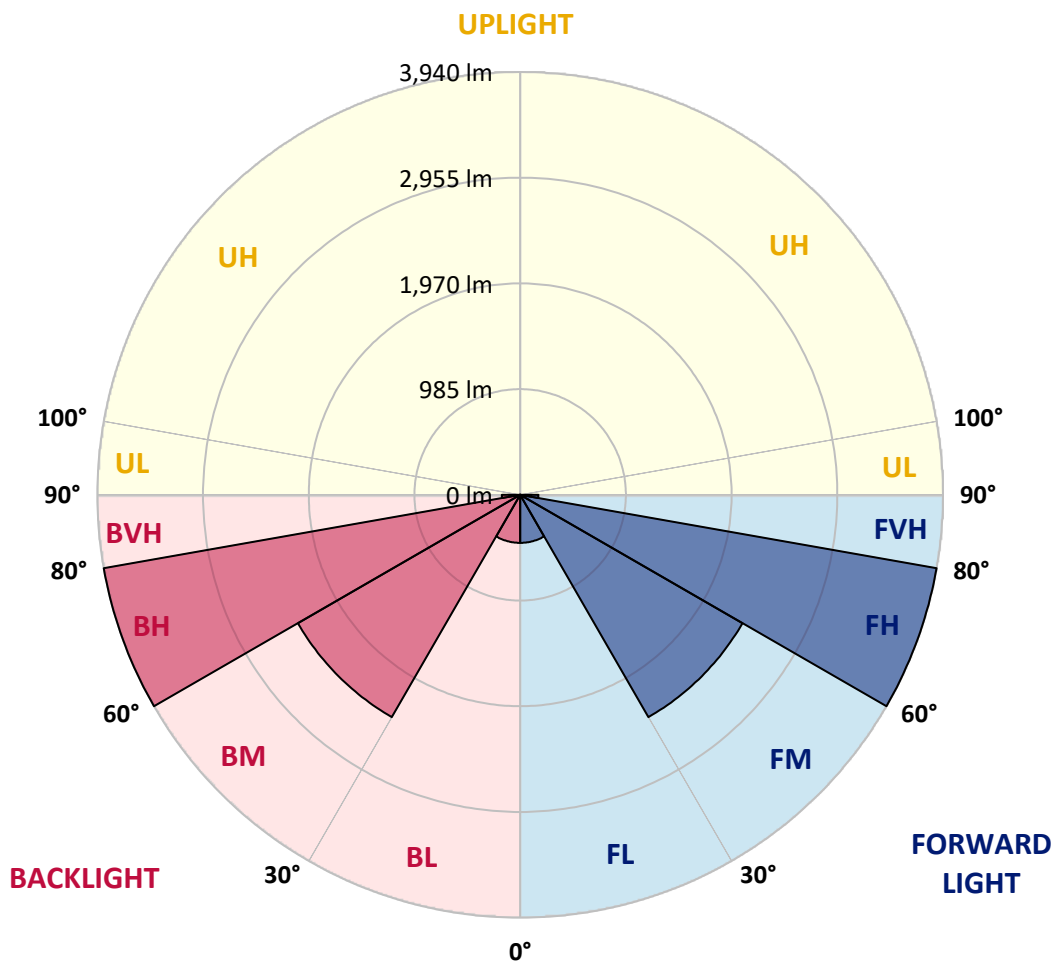
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	447.6	3.2			
FM (30°-60°)	2392.2	17.2			
FH (60°-80°)	3940.2	28.3			G2/5000
FVH (80°-90°)	170.5	1.2			G2/225
BL (0°-30°)	447.6	3.2	B1/500		
BM (30°-60°)	2392.2	17.2	B2/2500		
BH (60°-80°)	3940.2	28.3	B4/5000		G2/5000
BVH (80°-90°)	170.5	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°	988.3	988.3	988.3	988.3	988.3	988.3	988.3	988.3	988.3	988.3	988.3
2.5°	996.0	996.0	996.8	996.0	994.2	993.4	990.8	989.1	987.4	986.5	984.8
5°	996.8	996.8	997.7	996.8	995.1	993.4	991.7	989.1	987.4	985.7	984.8
7.5°	1000.2	1001.1	1001.9	1001.1	997.7	996.0	993.4	990.8	987.4	985.7	984.0
10°	1007.1	1007.1	1007.1	1006.2	1003.7	1000.2	996.8	994.2	990.0	985.7	983.1
12.5°	1012.2	1013.1	1013.1	1011.4	1007.9	1003.7	1000.2	997.7	994.2	990.8	988.3
15°	1019.9	1019.9	1019.1	1015.6	1010.5	1007.1	1005.4	1004.5	1003.7	1001.9	999.4
17.5°	1035.3	1034.5	1031.9	1026.8	1020.8	1018.2	1016.5	1016.5	1016.5	1015.6	1013.9
20°	1057.6	1057.6	1054.1	1045.6	1040.5	1037.9	1035.3	1035.3	1035.3	1032.7	1030.2
22.5°	1093.5	1094.4	1089.2	1079.0	1072.1	1067.0	1063.6	1061.0	1058.4	1056.7	1052.4
25°	1142.3	1141.4	1135.4	1122.6	1117.5	1112.3	1105.5	1101.2	1097.8	1095.2	1090.1
27.5°	1193.6	1192.8	1185.9	1174.8	1171.4	1163.7	1158.5	1152.5	1148.3	1144.0	1138.8
30°	1259.5	1255.2	1250.1	1241.5	1239.8	1233.8	1227.0	1218.4	1211.6	1204.7	1198.7
32.5°	1318.5	1318.5	1310.8	1306.6	1310.0	1307.4	1308.3	1303.1	1298.9	1296.3	1290.3
35°	1400.7	1400.7	1397.2	1392.1	1393.0	1387.0	1386.1	1387.0	1390.4	1390.4	1383.6
37.5°	1510.2	1511.9	1500.8	1499.1	1494.8	1486.2	1482.0	1483.7	1491.4	1495.6	1486.2
40°	1646.2	1649.7	1646.2	1635.1	1630.0	1615.4	1606.9	1606.9	1612.9	1617.1	1613.7
42.5°	1780.6	1786.6	1780.6	1772.0	1767.7	1756.6	1752.3	1755.8	1763.5	1768.6	1763.5
45°	1930.3	1934.6	1926.9	1916.6	1911.5	1905.5	1902.9	1905.5	1914.1	1919.2	1917.5
47.5°	2077.5	2083.5	2074.1	2069.8	2069.8	2063.8	2070.6	2077.5	2085.2	2097.2	2092.0
50°	2221.2	2228.9	2222.9	2223.8	2230.6	2241.8	2254.6	2268.3	2282.0	2294.8	2296.5
52.5°	2349.6	2361.5	2362.4	2377.8	2399.2	2416.3	2452.2	2482.2	2514.7	2525.8	2520.7
55°	2484.8	2501.0	2522.4	2546.4	2580.6	2615.7	2676.4	2730.3	2773.1	2799.6	2795.4
57.5°	2678.1	2694.4	2716.6	2756.0	2807.3	2855.2	2938.2	3022.1	3087.1	3127.3	3107.7
60°	2928.8	2945.9	2975.0	3017.0	3083.7	3148.7	3262.5	3383.2	3484.1	3530.3	3494.4
62.5°	3260.8	3277.1	3295.9	3351.5	3426.0	3509.8	3652.7	3807.6	3935.9	3980.4	3929.9
65°	3734.0	3753.7	3759.7	3805.0	3877.7	3955.6	4109.6	4284.2	4430.5	4503.2	4402.2
67.5°	4267.0	4274.7	4298.7	4351.8	4426.2	4496.4	4617.9	4783.0	4923.3	4963.5	4855.7
70°	4579.4	4594.8	4636.7	4710.3	4799.2	4909.6	5042.2	5220.2	5379.4	5398.2	5261.3
72.5°	4297.0	4328.7	4403.1	4517.7	4704.3	4900.2	5128.7	5391.3	5619.8	5646.3	5426.4
75°	3446.5	3482.4	3571.4	3697.2	3917.9	4208.9	4539.1	4933.6	5275.8	5319.5	5028.6
77.5°	1837.0	1881.5	2010.7	2180.2	2495.0	2880.1	3277.9	3728.0	4018.9	4117.3	3907.7
80°	462.9	486.9	549.3	648.6	861.6	1172.2	1515.3	1999.6	2360.7	2513.9	2360.7
82.5°	179.7	197.7	214.8	226.7	247.3	290.1	400.4	652.8	879.6	1083.2	937.8
85°	69.3	73.6	106.1	120.6	120.6	132.6	152.3	179.7	222.5	243.0	203.6
87.5°	27.4	29.9	36.8	56.5	58.2	51.3	54.8	61.6	47.1	39.4	44.5
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°	988.3	988.3	988.3	988.3	988.3	988.3	988.3	988.3
2.5°	984.0	983.1	981.4	982.3	981.4	981.4	981.4	981.4
5°	983.1	983.1	981.4	981.4	981.4	982.3	981.4	981.4
7.5°	982.3	981.4	979.7	978.8	978.8	978.0	978.0	978.0
10°	980.6	978.8	977.1	976.3	976.3	974.6	974.6	974.6
12.5°	984.8	982.3	980.6	979.7	979.7	979.7	980.6	980.6
15°	996.8	991.7	989.1	988.3	989.1	990.8	991.7	992.5
17.5°	1009.6	1004.5	1000.2	998.5	999.4	1001.9	1004.5	1006.2
20°	1025.9	1021.6	1016.5	1014.8	1014.8	1018.2	1019.9	1022.5
22.5°	1049.0	1045.6	1041.3	1038.7	1037.0	1041.3	1043.9	1045.6
25°	1085.8	1082.4	1079.0	1076.4	1075.5	1079.8	1081.5	1082.4
27.5°	1134.6	1131.1	1129.4	1128.6	1126.0	1127.7	1130.3	1129.4
30°	1197.9	1200.5	1197.9	1197.9	1193.6	1195.3	1193.6	1191.9
32.5°	1282.6	1280.0	1272.3	1267.2	1261.2	1261.2	1258.6	1256.1
35°	1367.3	1358.7	1354.5	1357.0	1354.5	1356.2	1351.9	1347.6
37.5°	1467.4	1462.3	1461.4	1469.1	1467.4	1469.1	1469.1	1463.1
40°	1600.0	1596.6	1602.6	1615.4	1620.6	1619.7	1621.4	1613.7
42.5°	1752.3	1746.3	1748.9	1760.0	1766.0	1767.7	1766.9	1760.0
45°	1904.6	1906.4	1906.4	1918.3	1924.3	1927.7	1921.8	1919.2
47.5°	2076.6	2079.2	2073.2	2080.9	2082.6	2088.6	2083.5	2079.2
50°	2275.1	2265.7	2252.0	2254.6	2254.6	2252.9	2246.9	2241.8
52.5°	2496.7	2475.3	2449.7	2441.1	2431.7	2422.3	2410.3	2400.9
55°	2749.2	2712.4	2666.2	2644.8	2626.8	2605.4	2578.0	2568.6
57.5°	3041.8	2978.5	2916.9	2878.4	2832.1	2803.9	2768.8	2767.1
60°	3389.2	3303.6	3194.9	3137.6	3091.4	3058.0	3031.5	3021.2
62.5°	3790.5	3643.3	3526.1	3464.5	3410.6	3390.0	3356.7	3360.9
65°	4202.0	4052.3	3938.5	3888.9	3838.4	3824.7	3793.9	3805.0
67.5°	4647.8	4524.6	4399.7	4353.5	4307.3	4293.6	4261.9	4271.3
70°	5047.4	4890.8	4748.8	4658.1	4579.4	4516.0	4475.8	4459.6
72.5°	5127.0	4855.7	4632.4	4405.7	4274.7	4160.1	4113.0	4095.1
75°	4606.7	4185.8	3867.5	3601.4	3454.2	3287.3	3269.4	3244.6
77.5°	3583.4	3104.2	2719.2	2377.0	2179.3	1975.7	1905.5	1852.4
80°	2137.4	1642.8	1273.2	892.4	728.1	586.1	551.0	514.2
82.5°	764.9	490.3	330.3	257.5	230.2	212.2	198.5	180.5
85°	184.8	155.7	147.2	133.5	131.8	112.1	79.6	71.0
87.5°	59.0	53.9	54.8	52.2	54.8	41.1	33.4	29.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)