

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: P196886

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196886
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-8030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 80 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V
MEDIUM OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10585 lumens
Efficiency: N/A
Efficacy: 93.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B4 - U0 - G2

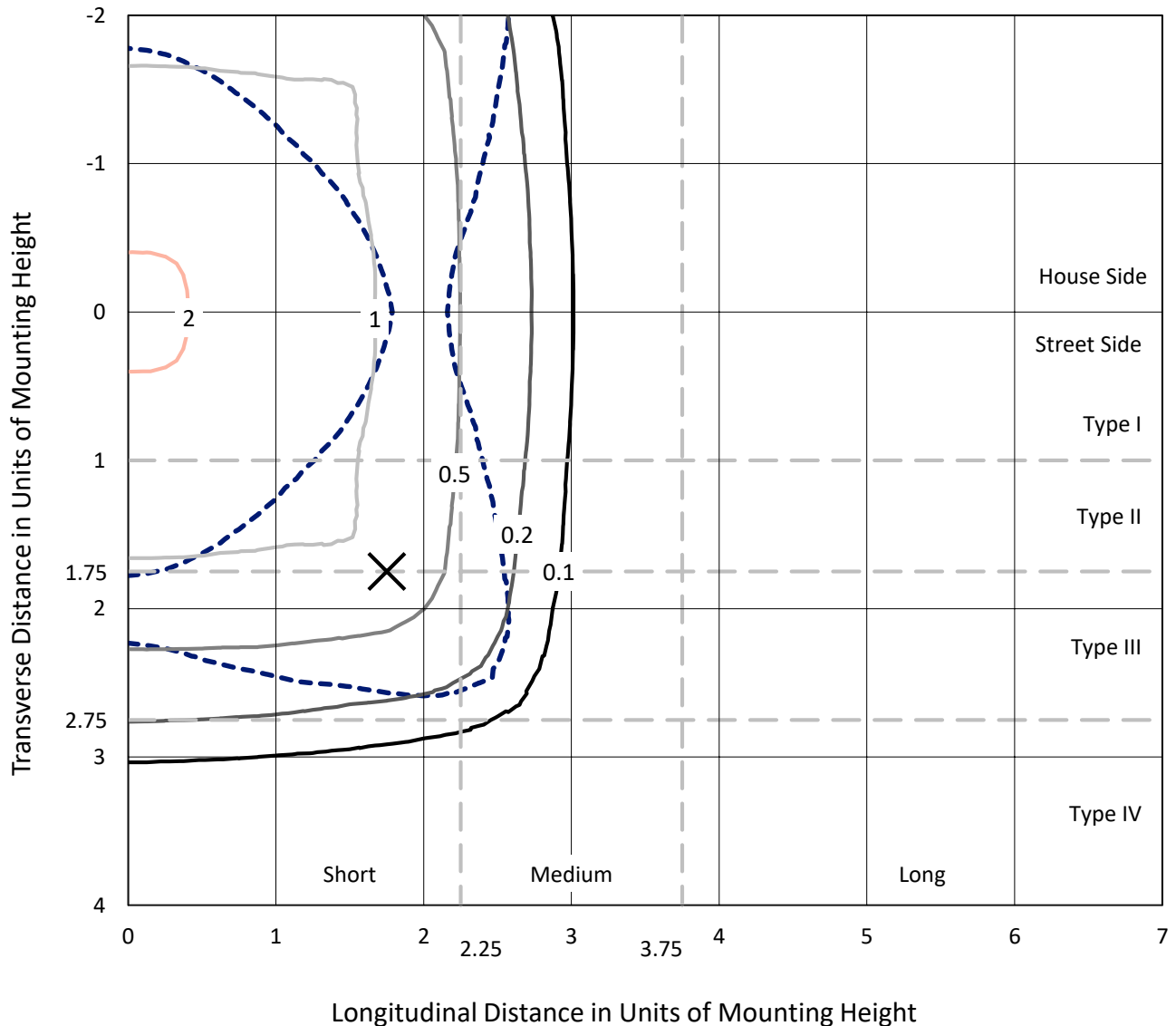
Input Watts (W): 113
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

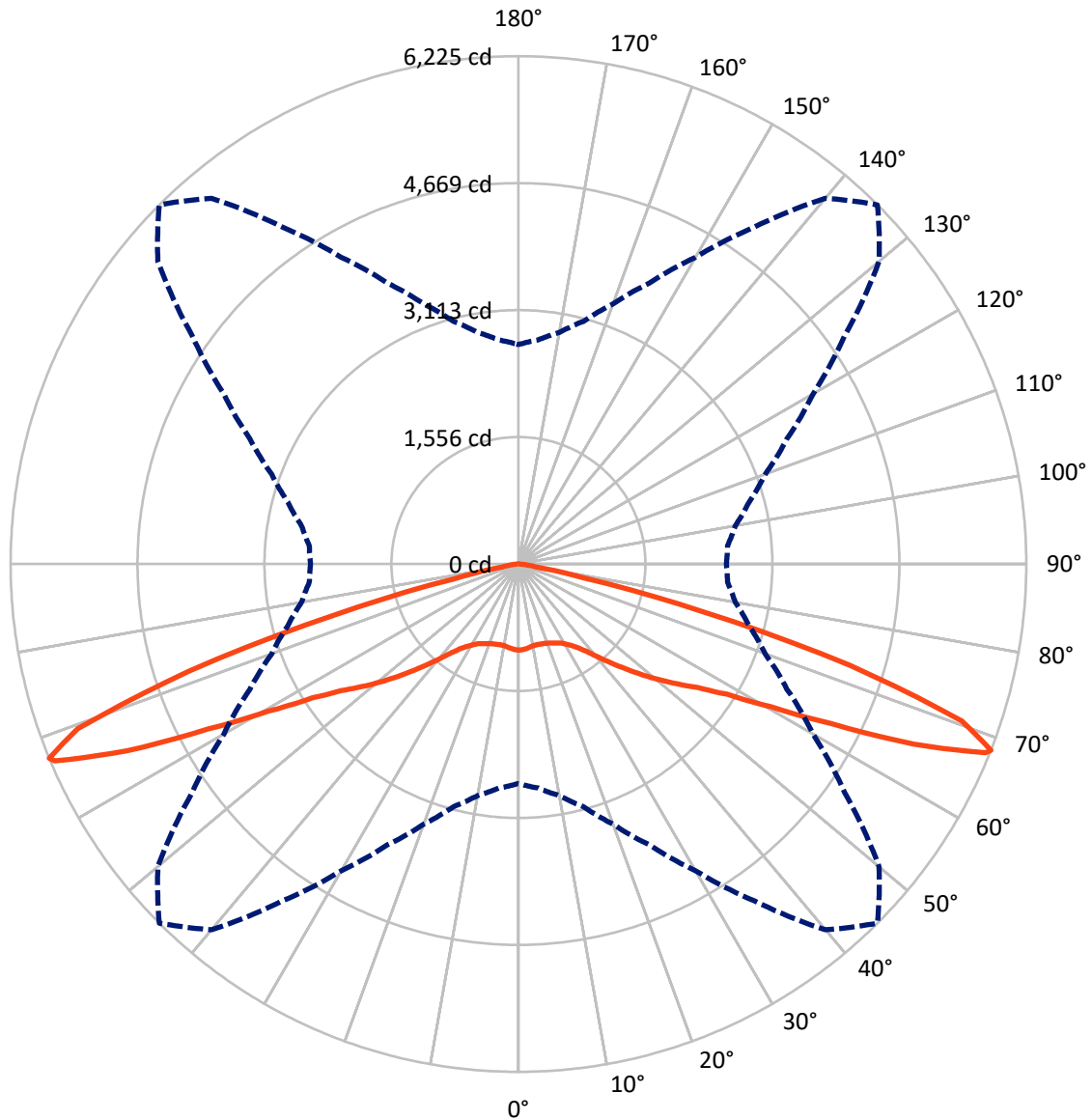
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 2.6 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	5292.5	0.0	5292.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	5292.5	0.0	5292.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	10585.0	0.0	10585.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.8	0.9
10°-20°	286.6	2.7
20°-30°	487.2	4.6
30°-40°	797.2	7.5
40°-50°	1424.7	13.5
50°-60°	2406.2	22.7
60°-70°	3731.1	35.2
70°-80°	1282.8	12.1
80°-90°	70.5	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°	10585.0	100.0
0°-180°	10585.0	100.0

Coefficient of Utilization



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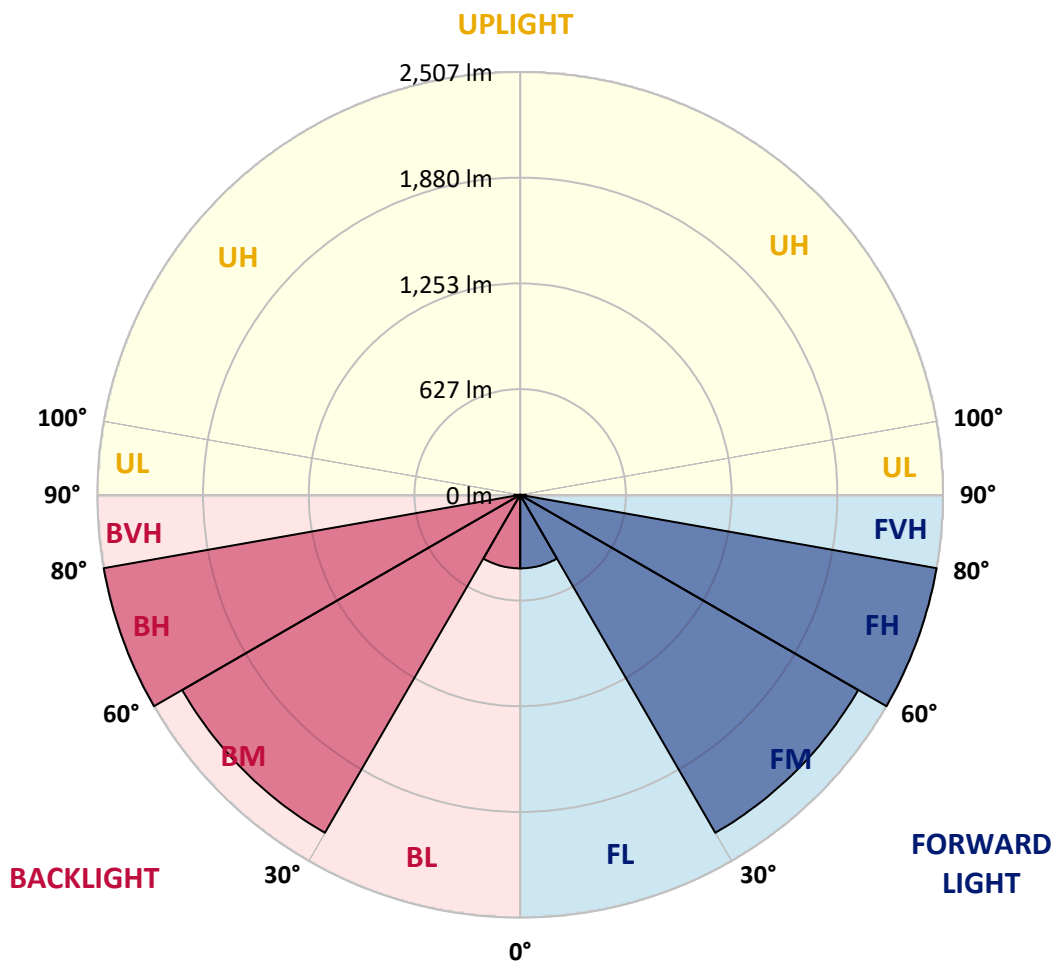
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	436.3	4.1			
FM	(30°-60°)	2314.1	21.9			
FH	(60°-80°)	2506.9	23.7			G2/5000
FVH	(80°-90°)	35.2	0.3			G1/100
BL	(0°-30°)	436.3	4.1	B1/500		
BM	(30°-60°)	2314.1	21.9	B2/2500		
BH	(60°-80°)	2506.9	23.7	B4/5000		G2/5000
BVH	(80°-90°)	35.2	0.3			G1/100
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°	1055.9	1055.9	1055.9	1055.9	1055.9	1055.9	1055.9	1055.9	1055.9	1055.9	1055.9
2.5°	1060.4	1060.4	1061.7	1061.1	1059.1	1057.2	1055.2	1053.3	1052.0	1050.7	1049.4
5°	1049.4	1049.4	1051.3	1050.1	1048.8	1046.8	1045.5	1043.6	1042.3	1041.0	1041.6
7.5°	1035.1	1036.4	1037.7	1037.1	1034.5	1033.8	1031.9	1031.3	1030.0	1028.0	1028.7
10°	1022.8	1023.5	1024.8	1024.1	1023.5	1021.5	1020.9	1020.2	1019.6	1017.0	1016.3
12.5°	1010.5	1011.8	1013.1	1013.8	1013.1	1013.8	1014.4	1015.0	1014.4	1013.1	1013.1
15°	1000.8	1002.1	1004.0	1006.0	1006.6	1010.5	1013.1	1015.7	1017.6	1018.3	1016.3
17.5°	995.6	997.5	1000.1	1004.0	1007.3	1011.8	1016.3	1020.2	1023.5	1024.1	1022.2
20°	995.0	996.9	1000.8	1005.3	1011.2	1017.0	1024.1	1030.0	1033.2	1035.1	1033.2
22.5°	999.5	1002.1	1007.3	1013.1	1020.2	1028.0	1037.1	1043.6	1050.1	1052.6	1050.7
25°	1012.5	1015.0	1020.9	1028.0	1035.8	1045.5	1054.6	1063.0	1069.5	1072.7	1070.1
27.5°	1039.7	1040.3	1046.8	1054.6	1063.7	1072.1	1083.8	1087.6	1092.8	1096.1	1092.8
30°	1077.9	1079.2	1085.1	1097.4	1105.8	1116.8	1123.3	1127.2	1133.0	1136.3	1132.4
32.5°	1136.3	1137.6	1142.7	1154.4	1162.2	1170.6	1178.4	1181.0	1186.8	1190.7	1186.2
35°	1218.6	1221.2	1225.7	1233.5	1240.0	1246.5	1252.3	1250.3	1254.2	1259.4	1254.9
37.5°	1331.4	1330.7	1332.0	1337.8	1344.3	1348.2	1357.3	1352.8	1356.6	1361.2	1358.6
40°	1462.9	1462.9	1462.3	1472.7	1475.3	1479.1	1488.9	1483.0	1488.2	1493.4	1488.9
42.5°	1612.7	1615.3	1618.5	1626.9	1634.1	1635.4	1639.9	1637.3	1643.8	1648.3	1643.8
45°	1785.1	1789.0	1792.9	1812.3	1815.6	1818.1	1821.4	1813.0	1820.1	1824.0	1822.7
47.5°	1964.0	1971.1	1979.5	1999.6	2012.6	2018.4	2021.0	2011.3	2012.0	2017.8	2018.4
50°	2166.2	2174.0	2182.4	2205.1	2217.4	2227.8	2231.0	2220.0	2221.3	2225.9	2227.1
52.5°	2352.9	2362.0	2380.1	2410.6	2428.1	2446.2	2447.5	2433.9	2439.7	2443.0	2440.4
55°	2528.6	2540.2	2564.2	2605.0	2636.8	2672.4	2688.7	2673.7	2673.7	2671.1	2669.9
57.5°	2733.4	2746.3	2771.0	2818.3	2862.4	2913.6	2957.6	2972.6	2999.8	3008.9	2994.6
60°	3041.9	3055.5	3080.8	3143.0	3198.8	3273.3	3345.9	3404.9	3500.8	3552.7	3506.0
62.5°	3323.9	3344.6	3404.2	3513.1	3633.7	3771.8	3931.9	4045.9	4220.3	4307.2	4189.8
65°	3259.7	3301.8	3418.5	3589.6	3838.5	4138.0	4464.0	4777.1	5137.5	5322.2	5083.7
67.5°	2847.5	2883.1	3008.9	3207.8	3518.3	3931.2	4438.1	5086.3	5829.7	6175.9	5753.9
68°	2689.9	2756.7	2881.8	3079.5	3392.6	3798.3	4339.6	5039.6	5851.1	6225.1	5769.5
70°	2062.5	2086.5	2206.4	2384.0	2721.7	3119.7	3666.1	4464.0	5381.2	5766.2	5297.6
72.5°	980.0	994.3	1072.1	1247.1	1461.6	1785.7	2268.0	3020.5	3846.9	4247.5	3780.2
75°	359.1	362.3	380.5	422.0	502.3	624.2	855.6	1323.6	1959.4	2336.7	1967.2
77.5°	193.8	194.5	201.6	212.0	226.2	242.4	277.4	372.1	600.2	816.7	633.9
80°	121.9	121.2	128.3	136.8	146.5	154.3	157.5	168.5	189.9	222.3	204.2
82.5°	62.2	68.1	84.3	93.3	107.6	110.2	106.9	106.3	112.8	121.9	125.7
85°	34.4	30.5	44.7	59.6	64.8	66.8	67.4	63.5	62.2	60.9	64.2
87.5°	17.5	16.2	19.4	29.8	31.8	25.9	26.6	22.7	15.6	15.6	16.2
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°	1055.9	1055.9	1055.9	1055.9	1055.9	1055.9	1055.9	1055.9
2.5°	1048.1	1048.8	1047.5	1047.5	1047.5	1048.1	1047.5	1046.8
5°	1039.7	1041.0	1041.0	1041.6	1042.3	1042.3	1042.3	1042.3
7.5°	1027.4	1028.0	1029.3	1029.3	1029.3	1029.3	1029.3	1029.3
10°	1015.7	1014.4	1013.8	1012.5	1012.5	1010.5	1011.2	1011.8
12.5°	1009.9	1007.3	1006.0	1004.0	1002.7	1000.8	1000.8	1001.4
15°	1012.5	1008.6	1004.7	1003.4	1002.1	1000.8	999.5	1000.1
17.5°	1017.6	1013.1	1008.6	1006.0	1003.4	1001.4	1000.8	1001.4
20°	1028.7	1022.2	1015.0	1010.5	1005.3	1004.0	1002.1	1004.0
22.5°	1043.6	1035.8	1026.7	1018.3	1012.5	1009.9	1007.3	1009.2
25°	1061.7	1053.3	1044.2	1034.5	1028.0	1026.1	1022.8	1022.8
27.5°	1087.0	1079.9	1072.1	1063.0	1056.5	1054.6	1049.4	1049.4
30°	1127.2	1120.1	1112.9	1105.1	1098.7	1096.7	1090.2	1090.2
32.5°	1180.3	1172.6	1168.0	1161.5	1156.4	1153.1	1145.3	1144.7
35°	1251.6	1244.5	1243.9	1239.3	1234.1	1234.8	1227.0	1225.7
37.5°	1354.0	1348.2	1350.2	1346.3	1341.7	1345.6	1341.1	1341.1
40°	1485.0	1483.0	1485.0	1482.4	1483.0	1483.7	1479.8	1481.1
42.5°	1643.1	1638.0	1649.6	1648.3	1646.4	1651.6	1642.5	1636.0
45°	1825.3	1823.3	1835.0	1836.9	1833.1	1836.3	1820.1	1819.4
47.5°	2023.0	2023.0	2033.3	2032.0	2028.2	2028.8	2009.4	1997.0
50°	2229.1	2227.8	2238.2	2235.6	2230.4	2229.7	2209.6	2197.3
52.5°	2443.6	2443.6	2458.5	2451.4	2439.1	2433.3	2408.6	2392.4
55°	2680.9	2677.6	2682.2	2658.8	2634.9	2617.4	2586.9	2574.6
57.5°	2981.0	2943.4	2911.0	2881.2	2847.5	2826.7	2791.1	2778.1
60°	3406.8	3306.4	3262.9	3203.3	3147.6	3119.7	3072.4	3047.1
62.5°	3996.7	3830.1	3712.1	3580.5	3453.5	3364.1	3292.1	3260.3
65°	4678.6	4315.6	4015.5	3733.5	3494.3	3304.4	3198.8	3165.7
67.5°	4937.8	4271.5	3753.6	3349.1	3058.8	2832.5	2706.2	2679.6
68°	4882.7	4170.4	3632.4	3218.2	2926.5	2698.4	2572.6	2548.6
70°	4307.2	3518.3	2950.5	2538.3	2266.0	2048.9	1960.1	1921.9
72.5°	2936.3	2259.6	1733.2	1386.5	1182.9	1045.5	963.8	936.0
75°	1351.5	913.3	609.9	455.7	387.0	353.9	328.6	322.1
77.5°	394.1	286.5	246.3	228.2	214.5	202.9	194.5	193.8
80°	187.3	175.7	170.5	158.8	146.5	135.5	127.7	129.0
82.5°	125.7	122.5	122.5	110.8	91.4	78.4	64.8	58.3
85°	66.8	69.4	73.2	69.4	60.3	44.7	29.2	31.8
87.5°	22.7	25.9	27.2	26.6	24.0	18.1	13.6	13.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)