

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: P196400

Luminaire Tested: **NAV-AF-02-D-UNV-5MQ-7030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196400
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-7030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V MEDIUM OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10137.1 lumens
Efficiency: N/A
Efficacy: 119.3 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

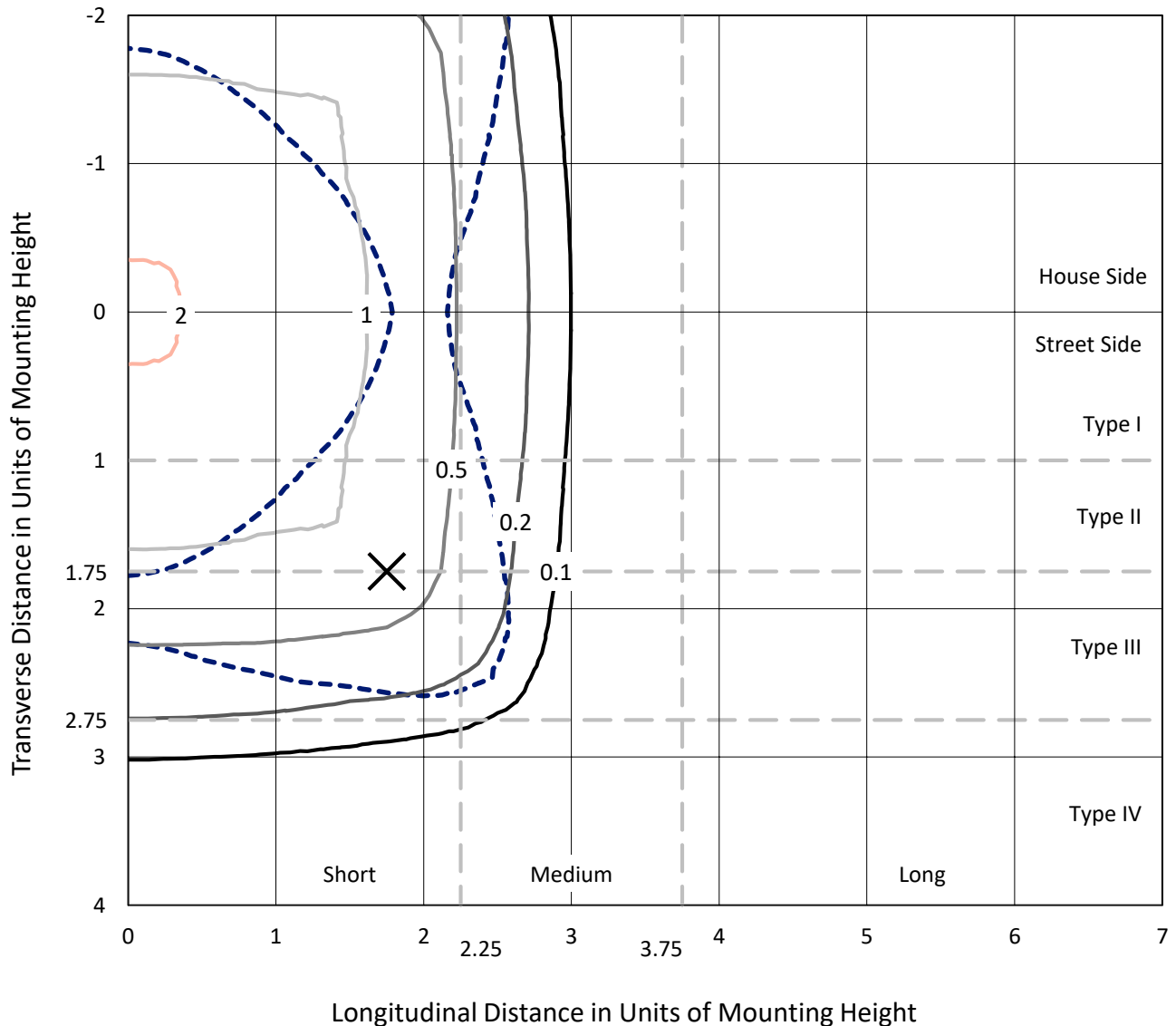
Input Watts (W): 85
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

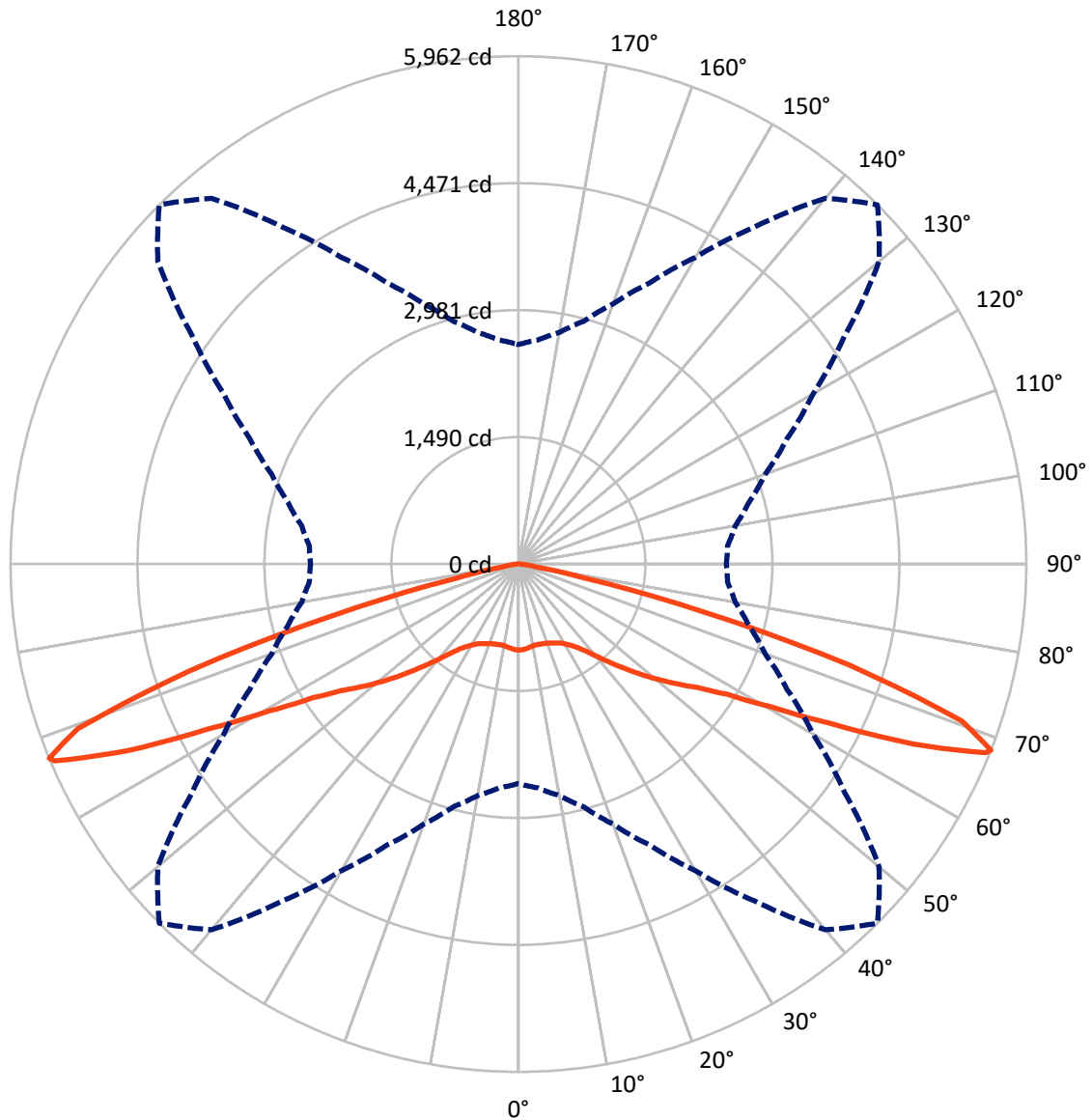
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 2.5 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	5068.5	0.0	5068.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	5068.5	0.0	5068.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	10137.1	0.0	10137.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.6	0.9
10°-20°	274.4	2.7
20°-30°	466.5	4.6
30°-40°	763.5	7.5
40°-50°	1364.4	13.5
50°-60°	2304.3	22.7
60°-70°	3573.2	35.2
70°-80°	1228.5	12.1
80°-90°	67.5	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°	10137.1	100.0
0°-180°	10137.1	100.0



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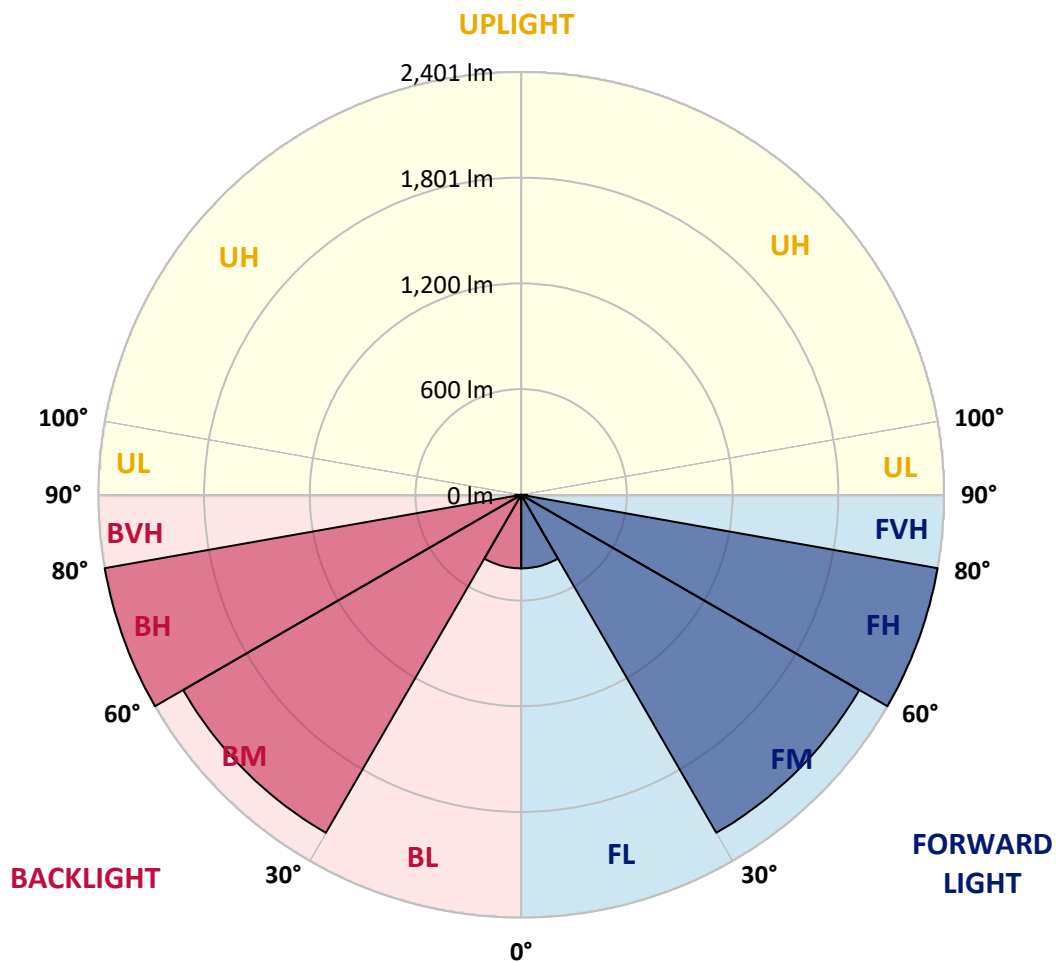
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	417.8	4.1			
FM	(30°-60°)	2216.1	21.9			
FH	(60°-80°)	2400.9	23.7			G2/5000
FVH	(80°-90°)	33.8	0.3			G1/100
BL	(0°-30°)	417.8	4.1	B1/500		
BM	(30°-60°)	2216.1	21.9	B2/2500		
BH	(60°-80°)	2400.9	23.7	B3/2500		G2/5000
BVH	(80°-90°)	33.8	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





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1011.2	1011.2	1011.2	1011.2	1011.2	1011.2	1011.2	1011.2	1011.2	1011.2	1011.2
2.5°	1015.6	1015.6	1016.7	1016.2	1014.3	1012.4	1010.5	1008.7	1007.5	1006.3	1004.9
5°	1004.9	1004.9	1006.9	1005.6	1004.4	1002.6	1001.3	999.4	998.2	996.9	997.5
7.5°	991.3	992.6	993.8	993.1	990.8	990.1	988.2	987.6	986.4	984.5	985.1
10°	979.5	980.2	981.3	980.8	980.2	978.3	977.7	977.1	976.4	973.9	973.4
12.5°	967.7	969.0	970.2	970.9	970.2	970.9	971.5	972.1	971.5	970.2	970.2
15°	958.4	959.8	961.6	963.4	964.0	967.7	970.2	972.7	974.6	975.2	973.4
17.5°	953.5	955.4	957.7	961.6	964.6	969.0	973.4	977.1	980.2	980.8	979.0
20°	952.8	954.7	958.4	962.8	968.4	973.9	980.8	986.4	989.5	991.3	989.5
22.5°	957.2	959.8	964.6	970.2	977.1	984.5	993.1	999.4	1005.6	1008.1	1006.3
25°	969.5	972.1	977.7	984.5	992.0	1001.3	1010.0	1018.1	1024.2	1027.4	1024.9
27.5°	995.7	996.3	1002.6	1010.0	1018.7	1026.7	1037.9	1041.6	1046.6	1049.7	1046.6
30°	1032.3	1033.6	1039.2	1051.0	1059.0	1069.5	1075.7	1079.5	1085.1	1088.2	1084.4
32.5°	1088.2	1089.5	1094.3	1105.6	1113.1	1121.1	1128.5	1131.1	1136.7	1140.3	1136.0
35°	1167.0	1169.5	1173.9	1181.3	1187.5	1193.6	1199.3	1197.5	1201.2	1206.1	1201.8
37.5°	1275.0	1274.4	1275.6	1281.3	1287.4	1291.1	1299.8	1295.5	1299.2	1303.6	1301.1
40°	1401.0	1401.0	1400.3	1410.3	1412.8	1416.5	1425.9	1420.3	1425.3	1430.2	1425.9
42.5°	1544.4	1546.9	1550.1	1558.0	1564.9	1566.1	1570.5	1568.0	1574.2	1578.6	1574.2
45°	1709.6	1713.3	1717.0	1735.6	1738.8	1741.1	1744.4	1736.2	1743.1	1746.8	1745.5
47.5°	1880.9	1887.7	1895.7	1915.0	1927.5	1933.1	1935.5	1926.2	1926.8	1932.4	1933.1
50°	2074.5	2082.1	2090.0	2111.8	2123.6	2133.5	2136.7	2126.0	2127.3	2131.6	2132.8
52.5°	2253.4	2262.0	2279.3	2308.5	2325.4	2342.7	2343.9	2330.9	2336.5	2339.6	2337.2
55°	2421.5	2432.7	2455.7	2494.8	2525.2	2559.4	2574.9	2560.6	2560.6	2558.1	2556.8
57.5°	2617.8	2630.1	2653.7	2699.0	2741.2	2790.3	2832.4	2846.8	2872.9	2881.5	2867.8
60°	2913.2	2926.2	2950.4	3010.0	3063.4	3134.7	3204.3	3260.9	3352.7	3402.4	3357.6
62.5°	3183.2	3203.1	3260.2	3364.4	3479.9	3612.1	3765.5	3874.8	4041.7	4124.9	4012.5
65°	3121.7	3162.1	3273.9	3437.8	3676.1	3962.9	4275.1	4574.9	4920.1	5097.0	4868.6
67.5°	2727.0	2761.1	2881.5	3072.1	3369.4	3764.8	4250.3	4871.0	5583.0	5914.5	5510.4
68°	2576.2	2640.0	2759.9	2949.2	3249.1	3637.6	4155.9	4826.3	5603.5	5961.7	5525.3
70°	1975.2	1998.3	2113.1	2283.1	2606.5	2987.7	3510.9	4275.1	5153.4	5522.2	5073.4
72.5°	938.5	952.2	1026.7	1194.3	1399.8	1710.1	2172.0	2892.7	3684.1	4067.8	3620.2
75°	343.9	347.0	364.4	404.2	481.1	597.7	819.5	1267.6	1876.5	2237.8	1883.9
77.5°	185.6	186.2	193.1	203.0	216.7	232.1	265.7	356.3	574.8	782.2	607.1
80°	116.7	116.1	122.9	131.0	140.3	147.7	150.9	161.3	181.9	212.9	195.6
82.5°	59.5	65.2	80.8	89.4	103.0	105.6	102.3	101.8	108.0	116.7	120.4
85°	32.9	29.2	42.8	57.2	62.1	63.9	64.6	60.8	59.5	58.4	61.4
87.5°	16.7	15.6	18.6	28.5	30.4	24.8	25.4	21.8	14.9	14.9	15.6
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°	1011.2	1011.2	1011.2	1011.2	1011.2	1011.2	1011.2	1011.2
2.5°	1003.8	1004.4	1003.1	1003.1	1003.1	1003.8	1003.1	1002.6
5°	995.7	996.9	996.9	997.5	998.2	998.2	998.2	998.2
7.5°	983.9	984.5	985.7	985.7	985.7	985.7	985.7	985.7
10°	972.7	971.5	970.9	969.5	969.5	967.7	968.4	969.0
12.5°	967.2	964.6	963.4	961.6	960.3	958.4	958.4	959.1
15°	969.5	965.9	962.1	960.9	959.8	958.4	957.2	957.7
17.5°	974.6	970.2	965.9	963.4	960.9	959.1	958.4	959.1
20°	985.1	979.0	972.1	967.7	962.8	961.6	959.8	961.6
22.5°	999.4	992.0	983.3	975.2	969.5	967.2	964.6	966.5
25°	1016.7	1008.7	1000.0	990.8	984.5	982.7	979.5	979.5
27.5°	1041.0	1034.1	1026.7	1018.1	1011.8	1010.0	1004.9	1004.9
30°	1079.5	1072.7	1065.9	1058.4	1052.1	1050.3	1044.1	1044.1
32.5°	1130.4	1122.9	1118.6	1112.4	1107.5	1104.3	1096.9	1096.2
35°	1198.7	1191.8	1191.3	1186.9	1181.8	1182.5	1175.1	1173.9
37.5°	1296.8	1291.1	1293.0	1289.3	1285.0	1288.7	1284.4	1284.4
40°	1422.1	1420.3	1422.1	1419.6	1420.3	1420.9	1417.2	1418.4
42.5°	1573.6	1568.6	1579.8	1578.6	1576.7	1581.6	1573.0	1566.8
45°	1748.0	1746.2	1757.3	1759.2	1755.5	1758.6	1743.1	1742.4
47.5°	1937.3	1937.3	1947.3	1946.0	1942.3	1942.9	1924.3	1912.6
50°	2134.8	2133.5	2143.4	2140.9	2136.0	2135.4	2116.2	2104.4
52.5°	2340.3	2340.3	2354.5	2347.7	2335.9	2330.3	2306.7	2291.1
55°	2567.4	2564.4	2568.6	2546.3	2523.4	2506.6	2477.5	2465.7
57.5°	2854.8	2818.8	2787.8	2759.3	2727.0	2707.1	2672.9	2660.6
60°	3262.7	3166.5	3124.9	3067.8	3014.4	2987.7	2942.4	2918.1
62.5°	3827.6	3668.1	3555.1	3429.0	3307.4	3221.7	3152.7	3122.4
65°	4480.6	4133.0	3845.6	3575.5	3346.5	3164.5	3063.4	3031.7
67.5°	4728.8	4090.7	3594.7	3207.5	2929.3	2712.7	2591.6	2566.2
68°	4676.1	3993.9	3478.7	3081.9	2802.7	2584.2	2463.8	2440.8
70°	4124.9	3369.4	2825.7	2430.9	2170.1	1962.2	1877.2	1840.5
72.5°	2812.0	2164.0	1659.8	1327.8	1132.9	1001.3	923.0	896.4
75°	1294.2	874.6	584.1	436.4	370.6	338.9	314.6	308.5
77.5°	377.4	274.3	235.9	218.5	205.5	194.3	186.2	185.6
80°	179.4	168.3	163.3	152.1	140.3	129.7	122.3	123.6
82.5°	120.4	117.4	117.4	106.2	87.5	75.1	62.1	55.8
85°	63.9	66.4	70.2	66.4	57.7	42.8	28.0	30.4
87.5°	21.8	24.8	26.1	25.4	23.0	17.4	13.0	13.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)