

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: P194960

Luminaire Tested: **NAV-AF-02-D-UNV-5MQ-7060-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P194960
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-7060-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5700K, 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: 10481 lumens
Efficiency: N/A
Efficacy: 123.3 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

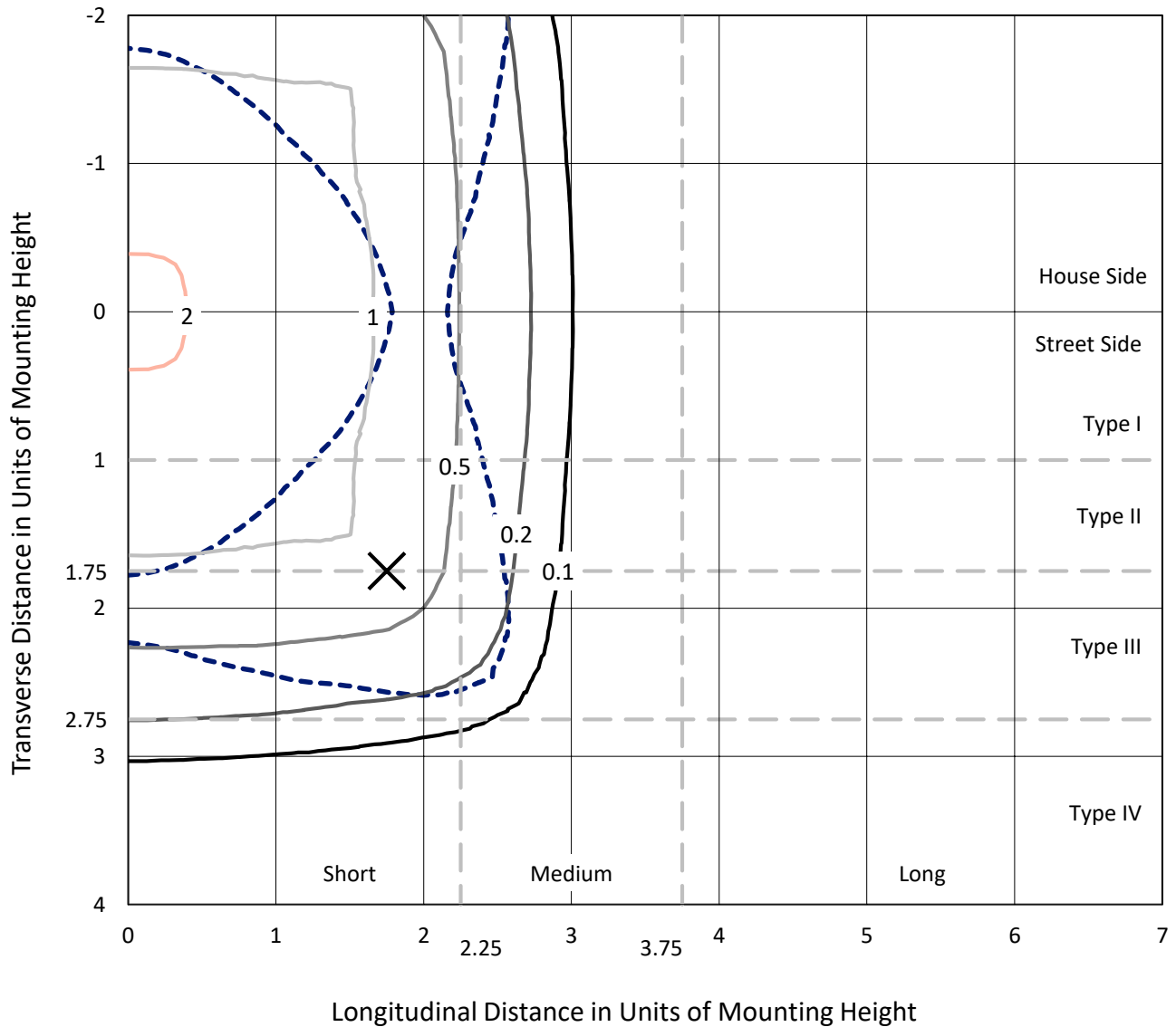
Input Watts (W): 85
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

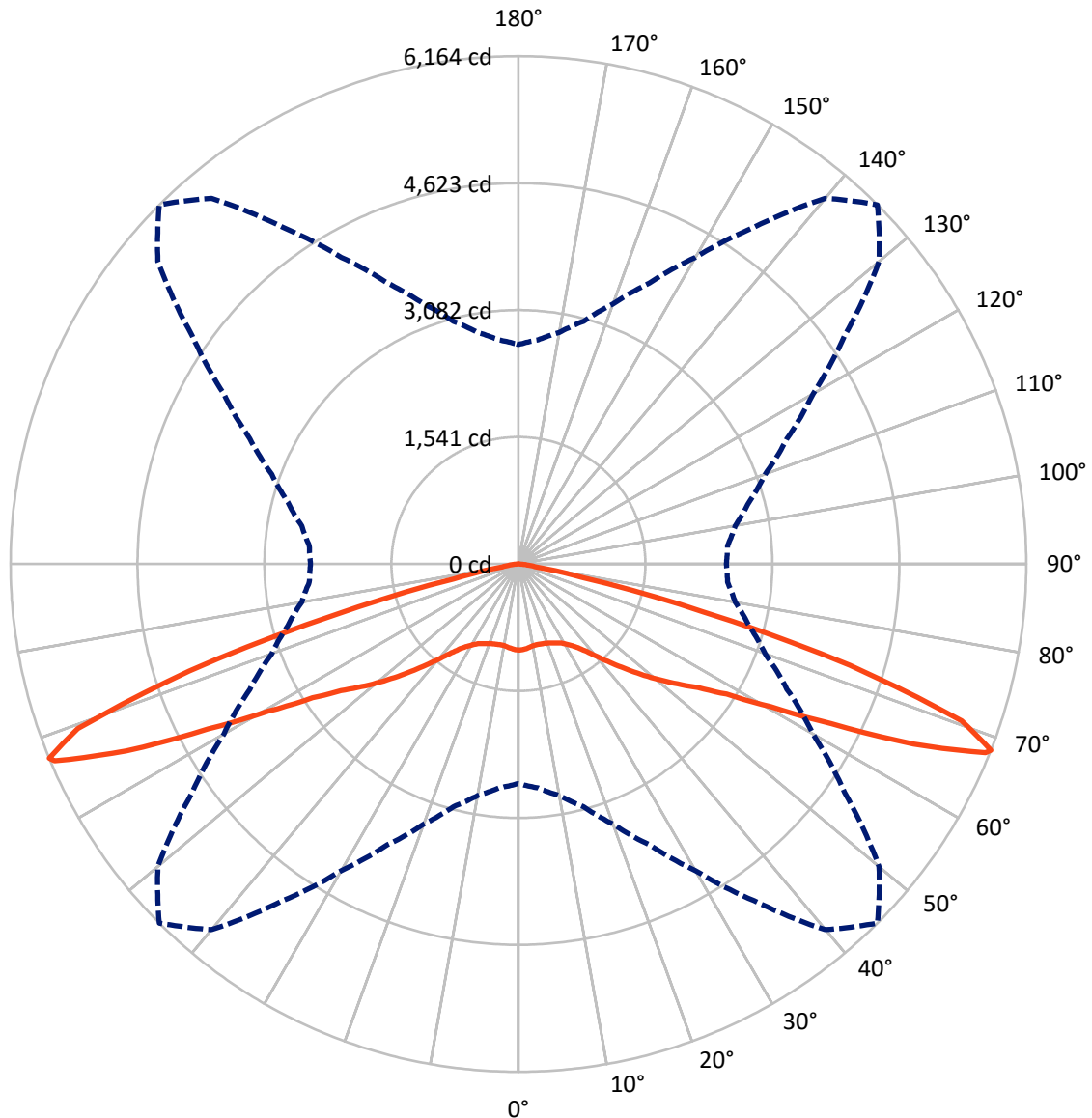
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 2.6 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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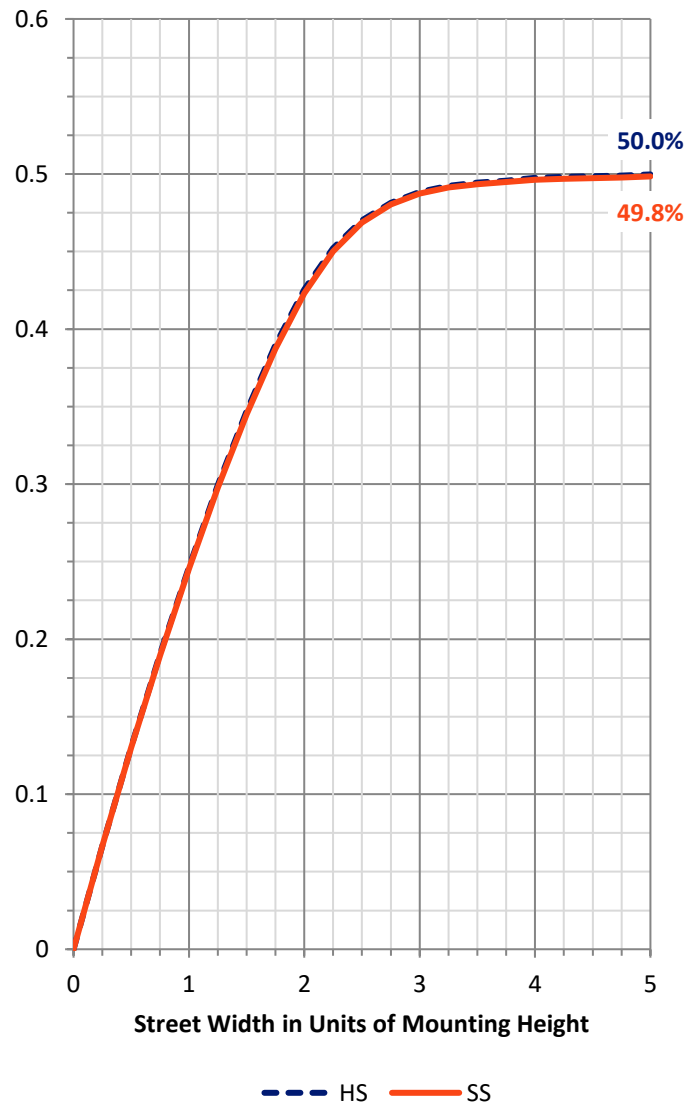
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5240.5	0.0	5240.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	5240.5	0.0	5240.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	10481.0	0.0	10481.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.8	0.9
10°-20°	283.7	2.7
20°-30°	482.4	4.6
30°-40°	789.4	7.5
40°-50°	1410.7	13.5
50°-60°	2382.5	22.7
60°-70°	3694.4	35.2
70°-80°	1270.2	12.1
80°-90°	69.8	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°	10481.0	100.0
0°-180°	10481.0	100.0



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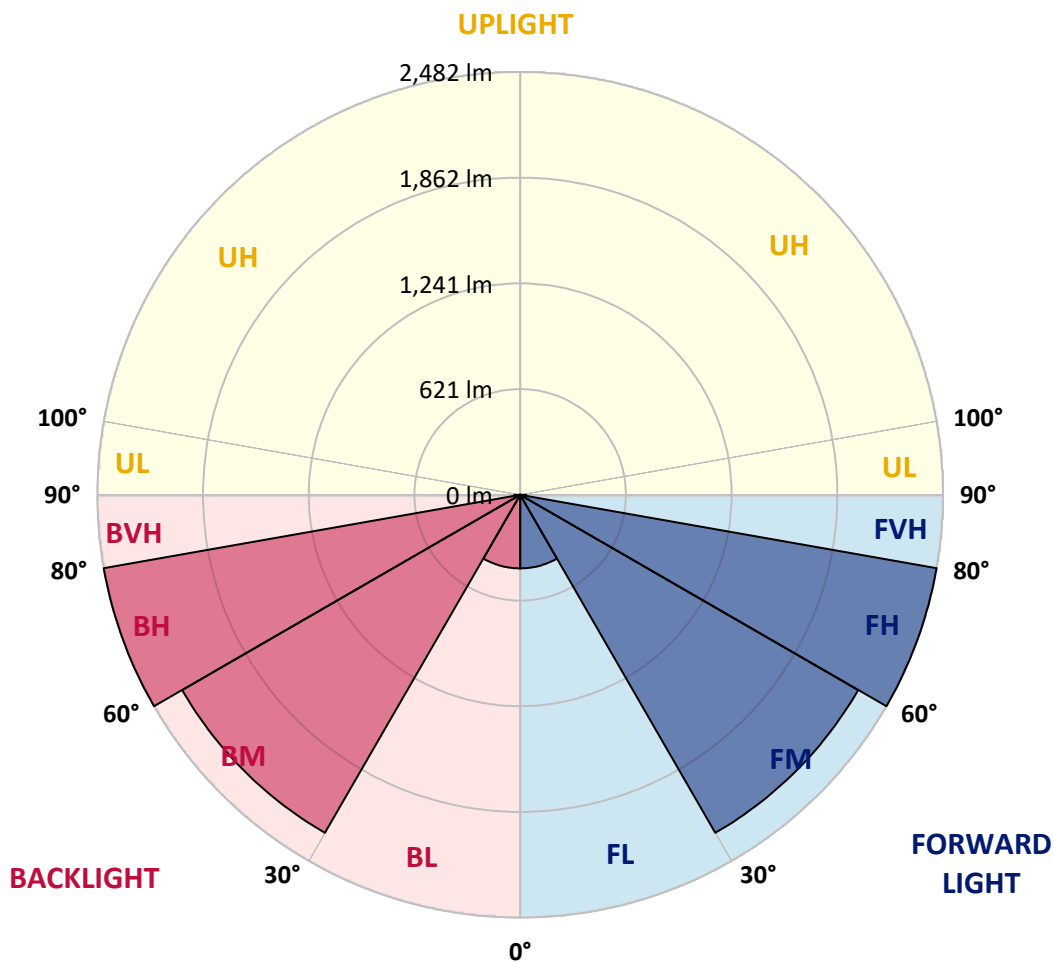
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	432.0	4.1			
FM	(30°-60°)	2291.3	21.9			
FH	(60°-80°)	2482.3	23.7			G2/5000
FVH	(80°-90°)	34.9	0.3			G1/100
BL	(0°-30°)	432.0	4.1	B1/500		
BM	(30°-60°)	2291.3	21.9	B2/2500		
BH	(60°-80°)	2482.3	23.7	B3/2500		G2/5000
BVH	(80°-90°)	34.9	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°	1045.5	1045.5	1045.5	1045.5	1045.5	1045.5	1045.5	1045.5	1045.5	1045.5	1045.5
2.5°	1050.0	1050.0	1051.3	1050.6	1048.7	1046.8	1044.9	1042.9	1041.7	1040.4	1039.1
5°	1039.1	1039.1	1041.0	1039.7	1038.5	1036.5	1035.2	1033.3	1032.0	1030.7	1031.4
7.5°	1025.0	1026.3	1027.5	1026.9	1024.3	1023.7	1021.8	1021.1	1019.8	1017.9	1018.6
10°	1012.8	1013.4	1014.7	1014.1	1013.4	1011.5	1010.9	1010.2	1009.6	1007.0	1006.4
12.5°	1000.6	1001.9	1003.2	1003.8	1003.2	1003.8	1004.4	1005.1	1004.4	1003.2	1003.2
15°	991.0	992.2	994.2	996.1	996.7	1000.6	1003.2	1005.7	1007.6	1008.3	1006.4
17.5°	985.8	987.7	990.3	994.2	997.4	1001.9	1006.4	1010.2	1013.4	1014.1	1012.1
20°	985.2	987.1	991.0	995.4	1001.2	1007.0	1014.1	1019.8	1023.0	1025.0	1023.0
22.5°	989.7	992.2	997.4	1003.2	1010.2	1017.9	1026.9	1033.3	1039.7	1042.3	1040.4
25°	1002.5	1005.1	1010.9	1017.9	1025.6	1035.2	1044.2	1052.6	1059.0	1062.2	1059.6
27.5°	1029.5	1030.1	1036.5	1044.2	1053.2	1061.6	1073.1	1077.0	1082.1	1085.3	1082.1
30°	1067.3	1068.6	1074.4	1086.6	1094.9	1105.8	1112.3	1116.1	1121.9	1125.1	1121.2
32.5°	1125.1	1126.4	1131.5	1143.1	1150.8	1159.1	1166.8	1169.4	1175.2	1179.0	1174.5
35°	1206.6	1209.2	1213.7	1221.4	1227.8	1234.2	1240.0	1238.1	1241.9	1247.0	1242.5
37.5°	1318.3	1317.6	1318.9	1324.7	1331.1	1335.0	1344.0	1339.5	1343.3	1347.8	1345.2
40°	1448.6	1448.6	1447.9	1458.2	1460.8	1464.6	1474.2	1468.5	1473.6	1478.7	1474.2
42.5°	1596.8	1599.4	1602.6	1610.9	1618.0	1619.3	1623.8	1621.2	1627.6	1632.1	1627.6
45°	1767.5	1771.4	1775.3	1794.5	1797.7	1800.3	1803.5	1795.1	1802.2	1806.1	1804.8
47.5°	1944.7	1951.7	1960.1	1980.0	1992.8	1998.6	2001.2	1991.5	1992.2	1998.0	1998.6
50°	2144.9	2152.6	2161.0	2183.4	2195.6	2205.9	2209.1	2198.2	2199.5	2204.0	2205.3
52.5°	2329.8	2338.8	2356.7	2386.9	2404.2	2422.2	2423.5	2410.0	2415.8	2419.0	2416.4
55°	2503.7	2515.3	2539.0	2579.4	2610.9	2646.2	2662.2	2647.5	2647.5	2644.9	2643.6
57.5°	2706.5	2719.4	2743.7	2790.6	2834.2	2884.9	2928.6	2943.3	2970.3	2979.3	2965.2
60°	3012.0	3025.5	3050.5	3112.1	3167.3	3241.1	3313.0	3371.4	3466.4	3517.8	3471.6
62.5°	3291.2	3311.7	3370.8	3478.6	3598.0	3734.7	3893.2	4006.2	4178.8	4264.8	4148.7
65°	3227.7	3269.4	3384.9	3554.4	3800.8	4097.3	4420.2	4730.2	5087.0	5269.9	5033.7
67.5°	2819.5	2854.8	2979.3	3176.3	3483.8	3892.6	4394.5	5036.3	5772.5	6115.2	5697.4
68°	2663.5	2729.6	2853.5	3049.2	3359.2	3761.0	4296.9	4990.1	5793.6	6164.0	5712.8
70°	2042.2	2066.0	2184.7	2360.6	2695.0	3089.0	3630.1	4420.2	5328.3	5709.6	5245.5
72.5°	970.4	984.5	1061.6	1234.8	1447.3	1768.2	2245.7	2990.8	3809.2	4205.8	3743.0
75°	355.6	358.8	376.7	417.8	497.4	618.1	847.2	1310.6	1940.2	2313.7	1947.9
77.5°	191.9	192.5	199.6	209.9	224.0	240.0	274.7	368.4	594.3	808.7	627.7
80°	120.7	120.0	127.1	135.4	145.0	152.8	156.0	166.9	188.1	220.1	202.2
82.5°	61.6	67.4	83.4	92.4	106.5	109.1	105.9	105.3	111.7	120.7	124.5
85°	34.0	30.2	44.3	59.0	64.2	66.1	66.7	62.9	61.6	60.3	63.5
87.5°	17.3	16.0	19.3	29.5	31.4	25.7	26.3	22.5	15.4	15.4	16.0
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°	1045.5	1045.5	1045.5	1045.5	1045.5	1045.5	1045.5	1045.5
2.5°	1037.8	1038.5	1037.2	1037.2	1037.2	1037.8	1037.2	1036.5
5°	1029.5	1030.7	1030.7	1031.4	1032.0	1032.0	1032.0	1032.0
7.5°	1017.3	1017.9	1019.2	1019.2	1019.2	1019.2	1019.2	1019.2
10°	1005.7	1004.4	1003.8	1002.5	1002.5	1000.6	1001.2	1001.9
12.5°	999.9	997.4	996.1	994.2	992.9	991.0	991.0	991.6
15°	1002.5	998.7	994.8	993.5	992.2	991.0	989.7	990.3
17.5°	1007.6	1003.2	998.7	996.1	993.5	991.6	991.0	991.6
20°	1018.6	1012.1	1005.1	1000.6	995.4	994.2	992.2	994.2
22.5°	1033.3	1025.6	1016.6	1008.3	1002.5	999.9	997.4	999.3
25°	1051.3	1042.9	1034.0	1024.3	1017.9	1016.0	1012.8	1012.8
27.5°	1076.3	1069.3	1061.6	1052.6	1046.2	1044.2	1039.1	1039.1
30°	1116.1	1109.1	1102.0	1094.3	1087.9	1085.9	1079.5	1079.5
32.5°	1168.7	1161.0	1156.5	1150.1	1145.0	1141.8	1134.1	1133.4
35°	1239.3	1232.3	1231.6	1227.1	1222.0	1222.7	1214.9	1213.7
37.5°	1340.7	1335.0	1336.9	1333.0	1328.5	1332.4	1327.9	1327.9
40°	1470.4	1468.5	1470.4	1467.8	1468.5	1469.1	1465.3	1466.5
42.5°	1627.0	1621.9	1633.4	1632.1	1630.2	1635.3	1626.4	1619.9
45°	1807.3	1805.4	1817.0	1818.9	1815.0	1818.3	1802.2	1801.6
47.5°	2003.1	2003.1	2013.4	2012.1	2008.2	2008.9	1989.6	1977.4
50°	2207.2	2205.9	2216.2	2213.6	2208.5	2207.8	2187.9	2175.7
52.5°	2419.6	2419.6	2434.4	2427.3	2415.1	2409.4	2385.0	2368.9
55°	2654.5	2651.3	2655.8	2632.7	2609.0	2591.6	2561.5	2549.3
57.5°	2951.7	2914.5	2882.4	2852.9	2819.5	2798.9	2763.6	2750.8
60°	3373.4	3273.9	3230.9	3171.8	3116.6	3089.0	3042.2	3017.2
62.5°	3957.4	3792.5	3675.7	3545.4	3419.6	3331.0	3259.8	3228.3
65°	4632.6	4273.2	3976.0	3696.8	3460.0	3272.0	3167.3	3134.6
67.5°	4889.3	4229.5	3716.7	3316.2	3028.7	2804.7	2679.6	2653.2
68°	4834.8	4129.4	3596.7	3186.6	2897.8	2671.9	2547.3	2523.6
70°	4264.8	3483.8	2921.5	2513.3	2243.8	2028.8	1940.8	1903.0
72.5°	2907.4	2237.4	1716.2	1372.8	1171.3	1035.2	954.4	926.8
75°	1338.2	904.3	603.9	451.2	383.2	350.4	325.4	319.0
77.5°	390.2	283.7	243.9	225.9	212.4	200.9	192.5	191.9
80°	185.5	173.9	168.8	157.2	145.0	134.1	126.4	127.7
82.5°	124.5	121.3	121.3	109.7	90.5	77.7	64.2	57.8
85°	66.1	68.7	72.5	68.7	59.7	44.3	28.9	31.4
87.5°	22.5	25.7	27.0	26.3	23.7	18.0	13.5	13.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)