

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: P195014

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195014
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
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5700K, 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: 12672 lumens
Efficiency: N/A
Efficacy: 112.1 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

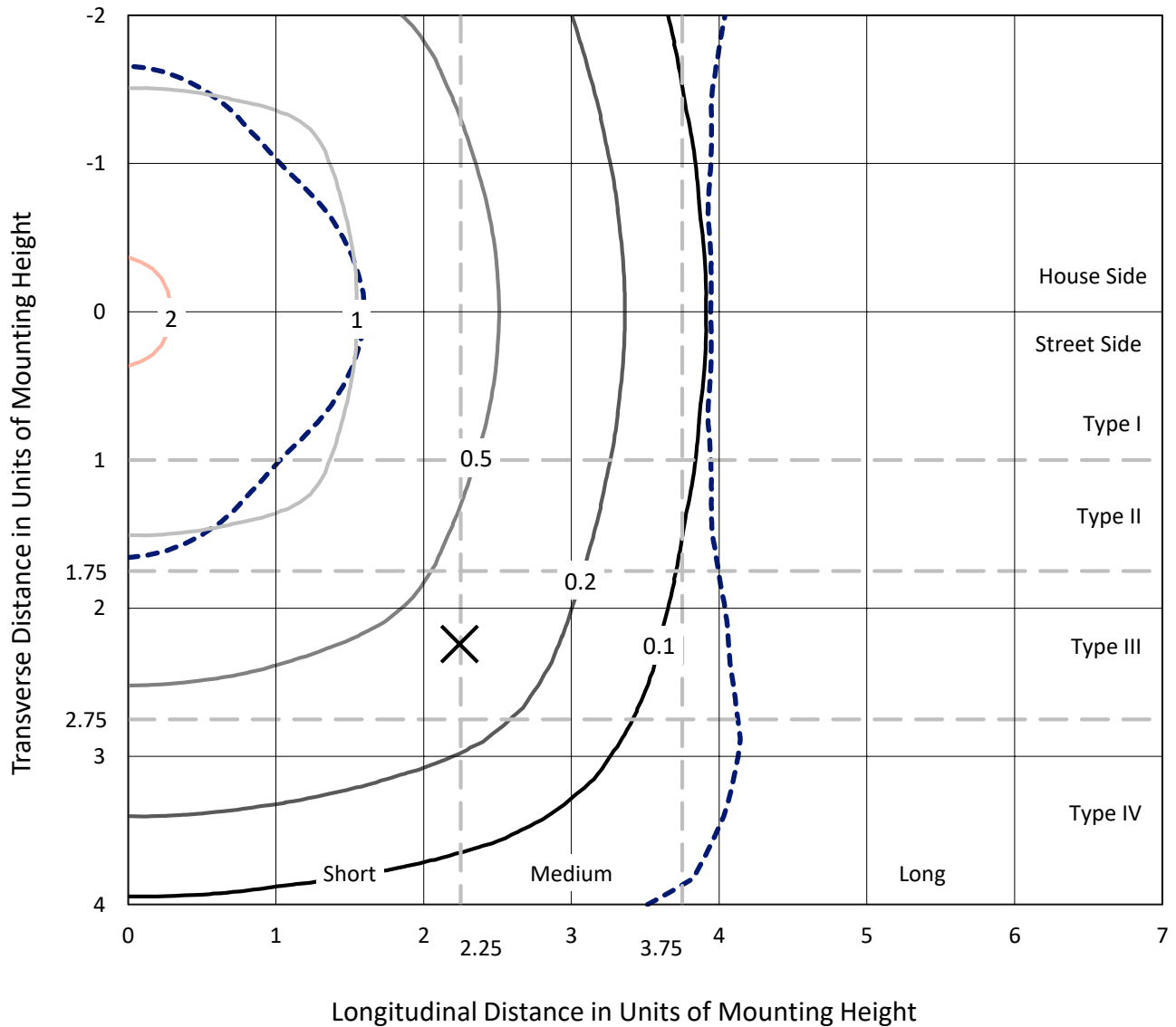
Input Watts (W): 113
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

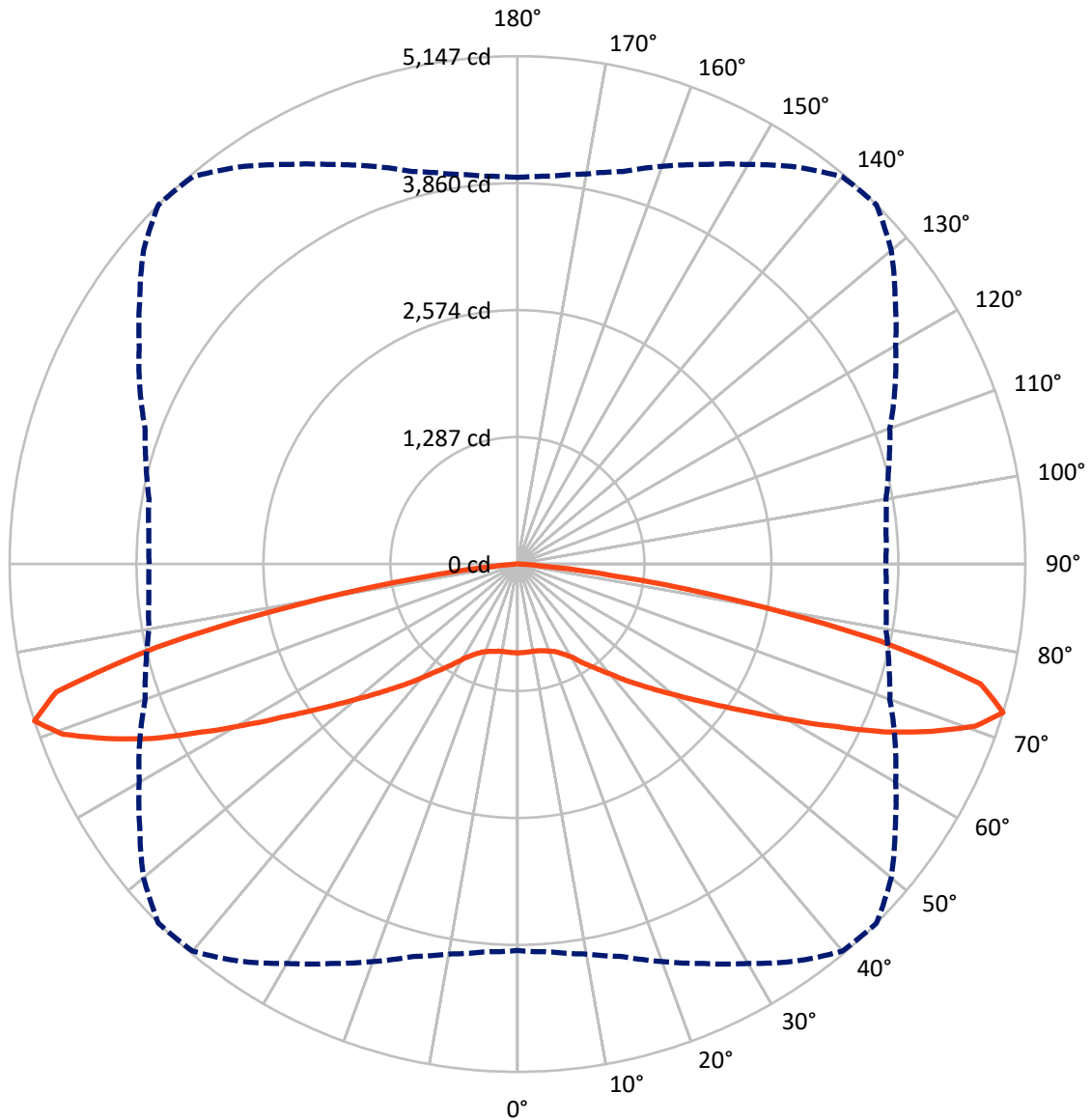


Based on 20 foot mounting height. Maximum calculated value = 2.3 fc
 Type V - Short - Semi-Cutoff

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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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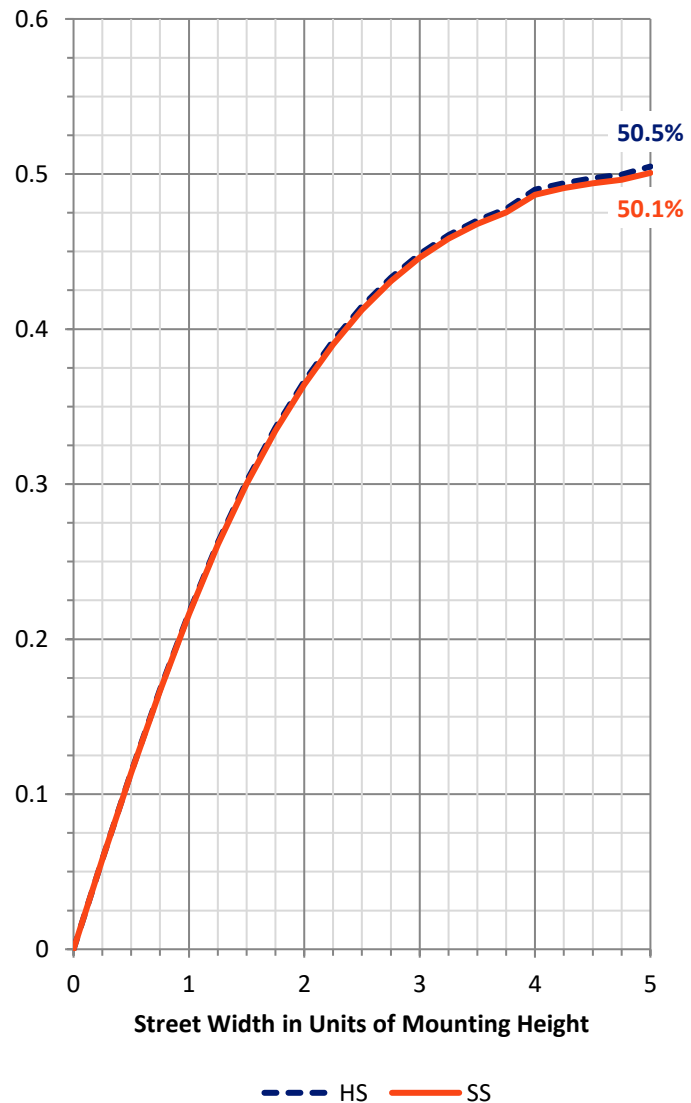
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	6336.0	0.0	6336.0
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	6336.0	0.0	6336.0
	% Fixture	50.0	0.0	50.0
Total	Lumens	12672.0	0.0	12672.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.0	0.7
10°-20°	260.2	2.1
20°-30°	469.8	3.7
30°-40°	801.3	6.3
40°-50°	1364.3	10.8
50°-60°	2195.7	17.3
60°-70°	3651.4	28.8
70°-80°	3532.3	27.9
80°-90°	310.9	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°	12672.0	100.0
0°-180°	12672.0	100.0



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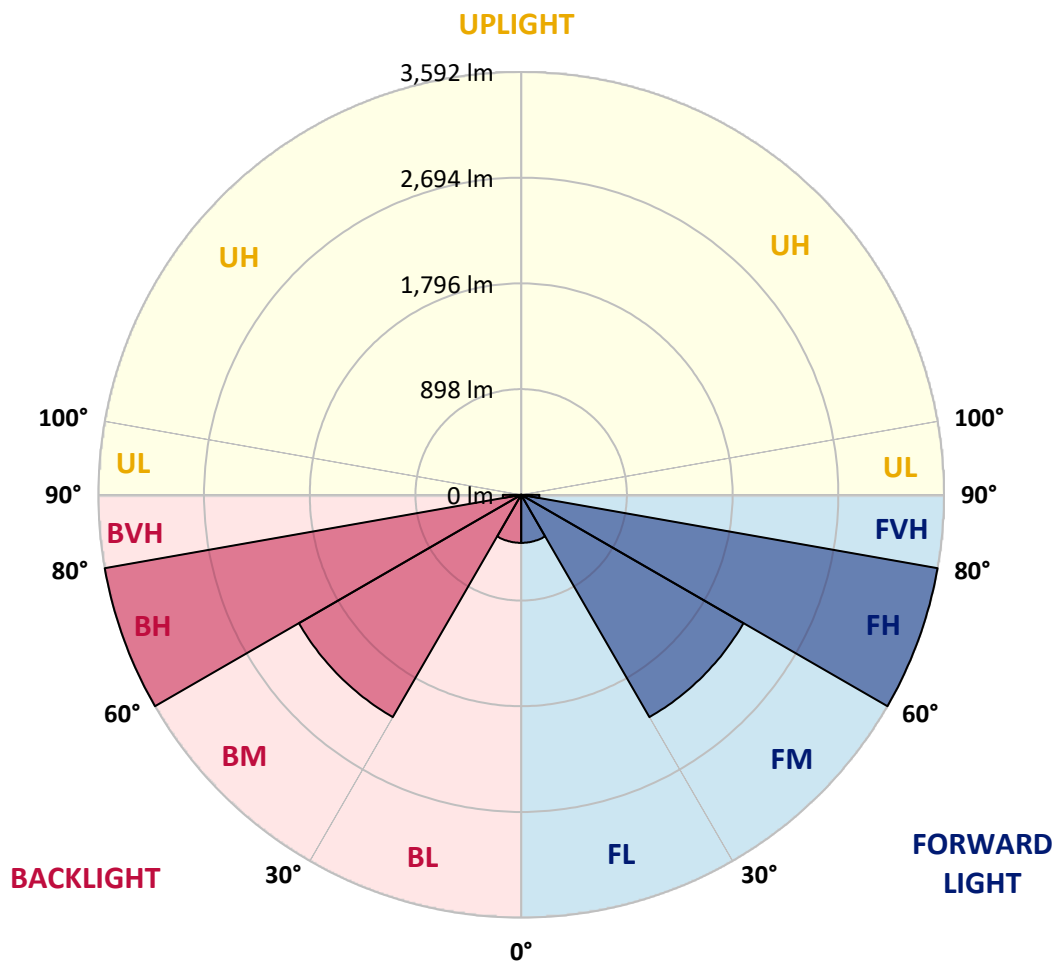
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	408.0	3.2			
FM	(30°-60°)	2180.7	17.2			
FH	(60°-80°)	3591.9	28.3			G2/5000
FVH	(80°-90°)	155.4	1.2			G2/225
BL	(0°-30°)	408.0	3.2	B1/500		
BM	(30°-60°)	2180.7	17.2	B2/2500		
BH	(60°-80°)	3591.9	28.3	B4/5000		G2/5000
BVH	(80°-90°)	155.4	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°	900.9	900.9	900.9	900.9	900.9	900.9	900.9	900.9	900.9	900.9	900.9
2.5°	907.9	907.9	908.7	907.9	906.3	905.6	903.2	901.7	900.1	899.3	897.8
5°	908.7	908.7	909.5	908.7	907.1	905.6	904.0	901.7	900.1	898.5	897.8
7.5°	911.8	912.6	913.4	912.6	909.5	907.9	905.6	903.2	900.1	898.5	897.0
10°	918.0	918.0	918.0	917.3	914.9	911.8	908.7	906.3	902.4	898.5	896.2
12.5°	922.7	923.5	923.5	921.9	918.8	914.9	911.8	909.5	906.3	903.2	900.9
15°	929.7	929.7	929.0	925.8	921.2	918.0	916.5	915.7	914.9	913.4	911.0
17.5°	943.8	943.0	940.7	936.0	930.5	928.2	926.6	926.6	926.6	925.8	924.3
20°	964.1	964.1	960.9	953.1	948.5	946.1	943.8	943.8	943.8	941.4	939.1
22.5°	996.8	997.6	992.9	983.6	977.3	972.6	969.5	967.2	964.8	963.3	959.4
25°	1041.3	1040.5	1035.0	1023.3	1018.7	1014.0	1007.7	1003.8	1000.7	998.4	993.7
27.5°	1088.1	1087.3	1081.1	1070.9	1067.8	1060.8	1056.1	1050.6	1046.7	1042.8	1038.2
30°	1148.1	1144.2	1139.6	1131.8	1130.2	1124.7	1118.5	1110.7	1104.5	1098.2	1092.8
32.5°	1202.0	1202.0	1194.9	1191.0	1194.2	1191.8	1192.6	1187.9	1184.0	1181.7	1176.2
35°	1276.8	1276.8	1273.7	1269.0	1269.8	1264.4	1263.6	1264.4	1267.5	1267.5	1261.2
37.5°	1376.7	1378.2	1368.1	1366.5	1362.6	1354.8	1350.9	1352.5	1359.5	1363.4	1354.8
40°	1500.7	1503.8	1500.7	1490.6	1485.9	1472.6	1464.8	1464.8	1470.3	1474.2	1471.1
42.5°	1623.2	1628.6	1623.2	1615.4	1611.5	1601.3	1597.4	1600.5	1607.6	1612.2	1607.6
45°	1759.6	1763.5	1756.5	1747.2	1742.5	1737.0	1734.7	1737.0	1744.8	1749.5	1747.9
47.5°	1893.8	1899.3	1890.7	1886.8	1886.8	1881.3	1887.6	1893.8	1900.8	1911.7	1907.1
50°	2024.8	2031.9	2026.4	2027.2	2033.4	2043.6	2055.3	2067.7	2080.2	2091.9	2093.5
52.5°	2141.8	2152.8	2153.5	2167.6	2187.1	2202.7	2235.4	2262.7	2292.4	2302.5	2297.8
55°	2265.1	2279.9	2299.4	2321.2	2352.4	2384.4	2439.8	2488.9	2527.9	2552.1	2548.2
57.5°	2441.4	2456.2	2476.5	2512.3	2559.1	2602.8	2678.5	2754.9	2814.2	2850.8	2832.9
60°	2669.9	2685.5	2712.0	2750.2	2811.1	2870.3	2974.1	3084.1	3176.1	3218.2	3185.5
62.5°	2972.5	2987.3	3004.5	3055.2	3123.1	3199.5	3329.8	3470.9	3587.9	3628.5	3582.5
65°	3403.9	3421.8	3427.3	3468.6	3534.9	3605.9	3746.3	3905.4	4038.8	4105.1	4013.0
67.5°	3889.8	3896.8	3918.7	3967.0	4034.9	4098.8	4209.6	4360.1	4488.0	4524.7	4426.4
70°	4174.5	4188.5	4226.7	4293.8	4374.9	4475.6	4596.5	4758.7	4903.8	4920.9	4796.1
72.5°	3917.1	3946.0	4013.8	4118.3	4288.4	4467.0	4675.2	4914.7	5122.9	5147.1	4946.7
75°	3141.8	3174.5	3255.7	3370.3	3571.6	3836.8	4137.8	4497.4	4809.4	4849.2	4584.0
77.5°	1674.6	1715.2	1833.0	1987.4	2274.4	2625.4	2988.1	3398.4	3663.6	3753.3	3562.2
80°	422.0	443.8	500.8	591.2	785.4	1068.6	1381.4	1822.8	2152.0	2291.6	2152.0
82.5°	163.8	180.2	195.8	206.7	225.4	264.4	365.0	595.1	801.8	987.5	854.9
85°	63.2	67.1	96.7	110.0	110.0	120.9	138.8	163.8	202.8	221.5	185.6
87.5°	25.0	27.3	33.5	51.5	53.0	46.8	49.9	56.2	42.9	35.9	40.6
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°	900.9	900.9	900.9	900.9	900.9	900.9	900.9	900.9
2.5°	897.0	896.2	894.6	895.4	894.6	894.6	894.6	894.6
5°	896.2	896.2	894.6	894.6	894.6	895.4	894.6	894.6
7.5°	895.4	894.6	893.1	892.3	892.3	891.5	891.5	891.5
10°	893.9	892.3	890.7	890.0	890.0	888.4	888.4	888.4
12.5°	897.8	895.4	893.9	893.1	893.1	893.1	893.9	893.9
15°	908.7	904.0	901.7	900.9	901.7	903.2	904.0	904.8
17.5°	920.4	915.7	911.8	910.2	911.0	913.4	915.7	917.3
20°	935.2	931.3	926.6	925.1	925.1	928.2	929.7	932.1
22.5°	956.3	953.1	949.2	946.9	945.3	949.2	951.6	953.1
25°	989.8	986.7	983.6	981.2	980.4	984.3	985.9	986.7
27.5°	1034.3	1031.1	1029.6	1028.8	1026.5	1028.0	1030.4	1029.6
30°	1092.0	1094.3	1092.0	1092.0	1088.1	1089.6	1088.1	1086.5
32.5°	1169.2	1166.9	1159.8	1155.2	1149.7	1149.7	1147.4	1145.0
35°	1246.4	1238.6	1234.7	1237.1	1234.7	1236.3	1232.4	1228.5
37.5°	1337.7	1333.0	1332.2	1339.2	1337.7	1339.2	1339.2	1333.8
40°	1458.6	1455.5	1460.9	1472.6	1477.3	1476.5	1478.1	1471.1
42.5°	1597.4	1592.0	1594.3	1604.4	1609.9	1611.5	1610.7	1604.4
45°	1736.2	1737.8	1737.8	1748.7	1754.2	1757.3	1751.8	1749.5
47.5°	1893.0	1895.4	1889.9	1896.9	1898.5	1903.9	1899.3	1895.4
50°	2074.0	2065.4	2052.9	2055.3	2055.3	2053.7	2048.2	2043.6
52.5°	2276.0	2256.5	2233.1	2225.3	2216.7	2208.1	2197.2	2188.6
55°	2506.1	2472.6	2430.4	2410.9	2394.6	2375.1	2350.1	2341.5
57.5°	2772.9	2715.1	2659.0	2623.9	2581.8	2556.0	2524.0	2522.5
60°	3089.5	3011.5	2912.5	2860.2	2818.1	2787.7	2763.5	2754.1
62.5°	3455.3	3321.2	3214.3	3158.2	3109.0	3090.3	3059.9	3063.8
65°	3830.5	3694.0	3590.3	3545.0	3499.0	3486.5	3458.5	3468.6
67.5°	4236.9	4124.6	4010.7	3968.6	3926.5	3914.0	3885.1	3893.7
70°	4601.1	4458.4	4328.9	4246.2	4174.5	4116.8	4080.1	4065.3
72.5°	4673.7	4426.4	4222.8	4016.1	3896.8	3792.3	3749.4	3733.0
75°	4199.4	3815.7	3525.5	3283.0	3148.8	2996.7	2980.3	2957.7
77.5°	3266.6	2829.8	2478.8	2166.8	1986.6	1801.0	1737.0	1688.7
80°	1948.4	1497.6	1160.6	813.5	663.8	534.3	502.3	468.8
82.5°	697.3	446.9	301.1	234.8	209.8	193.4	181.0	164.6
85°	168.5	142.0	134.2	121.7	120.1	102.2	72.5	64.7
87.5°	53.8	49.1	49.9	47.6	49.9	37.4	30.4	27.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)