

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: P194980

Luminaire Tested: **NAV-AF-04-D-UNV-5NQ-7060-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P194980
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24130)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-04-D-UNV-5NQ-7060-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V NARROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16525 lumens
Efficiency: N/A
Efficacy: 128.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B4 - U0 - G2

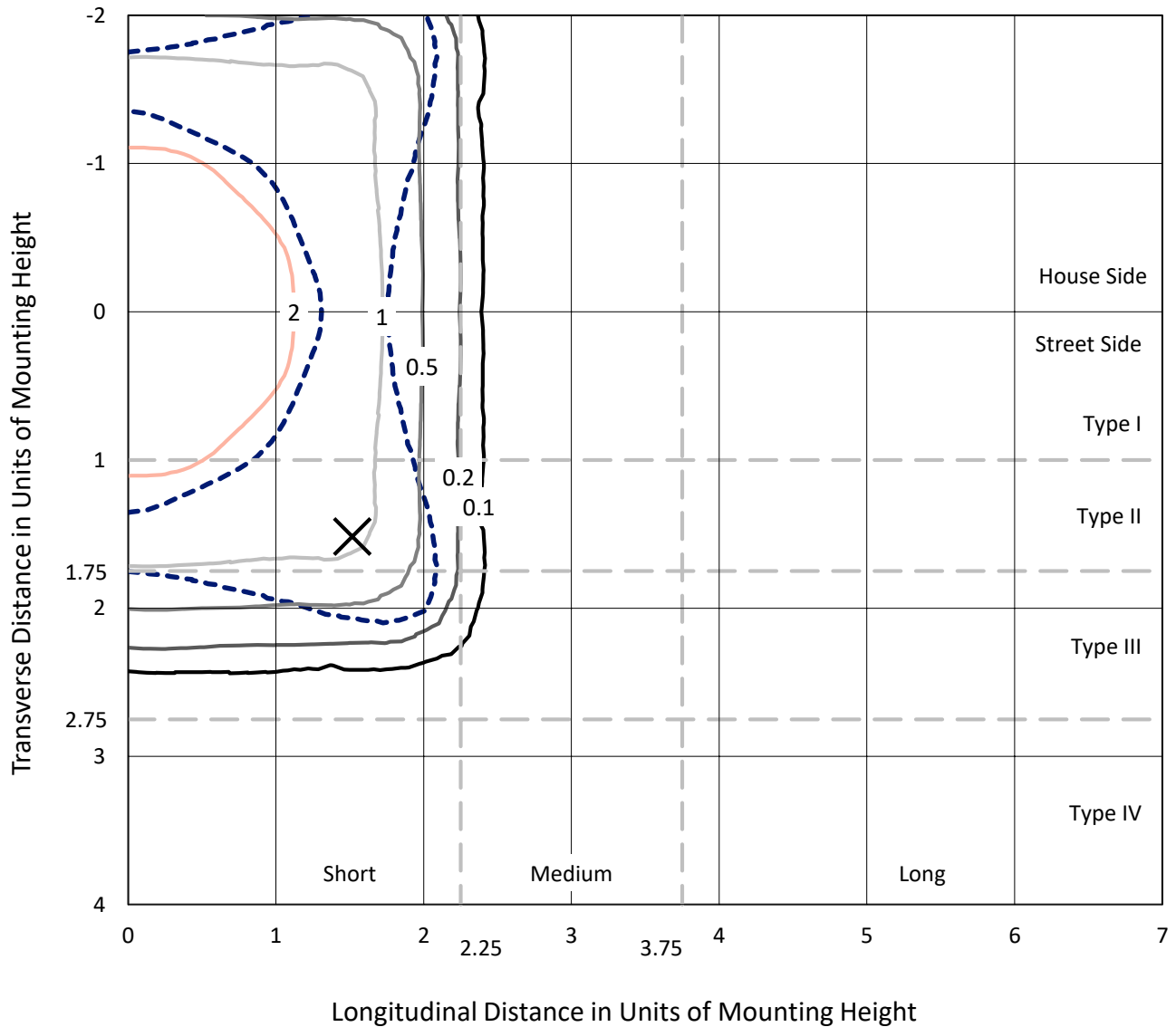
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

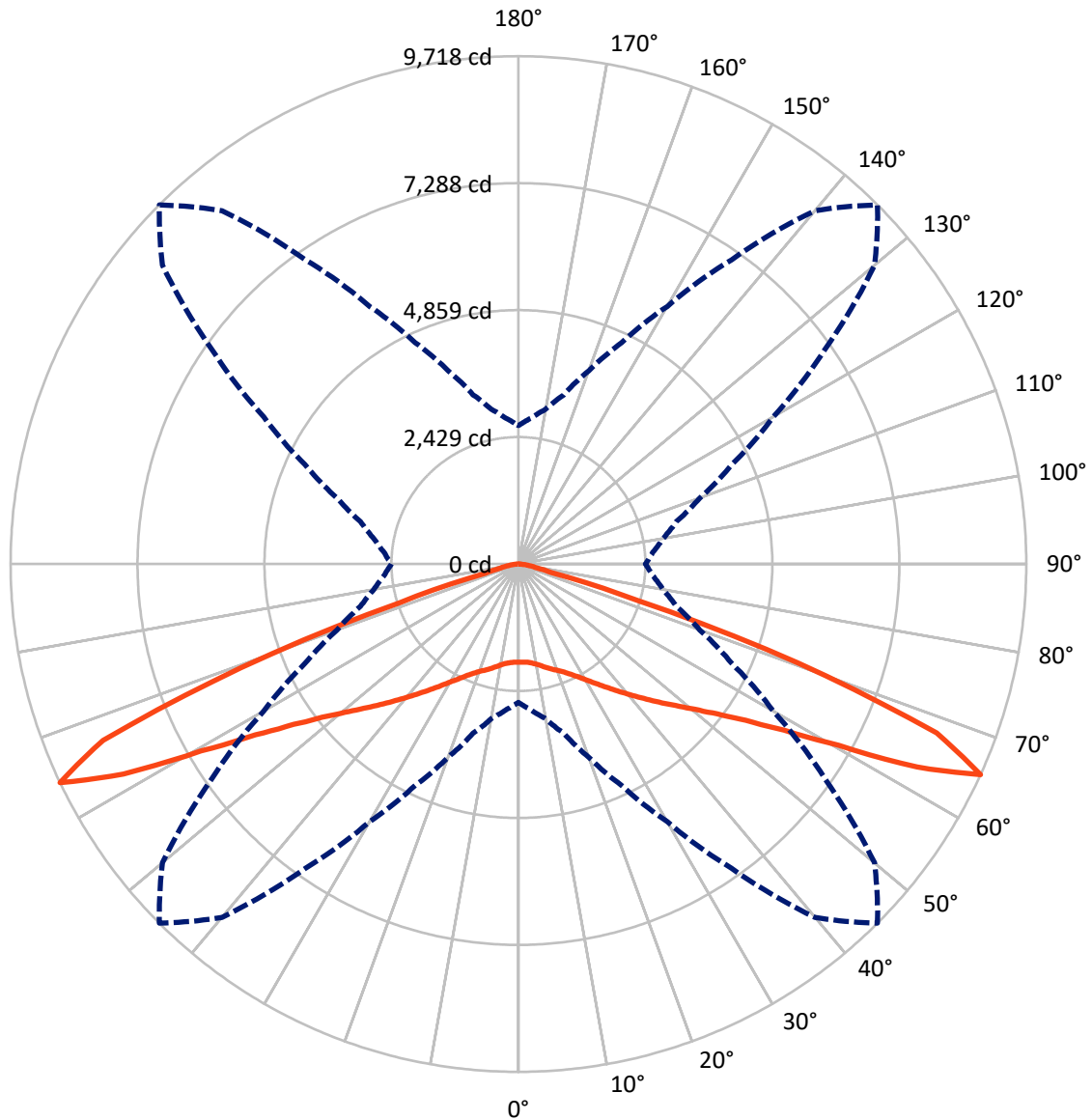
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3 fc
 Type V - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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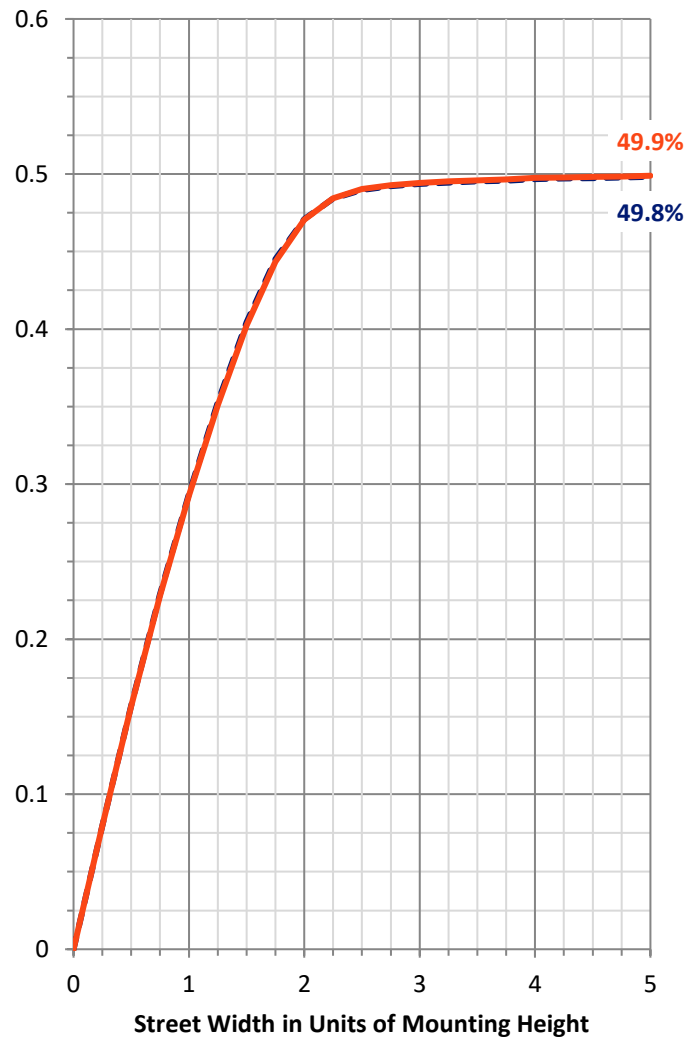
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	8262.5	0.0	8262.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	8262.5	0.0	8262.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	16525.0	0.0	16525.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	183.0	1.1
10°-20°	586.7	3.6
20°-30°	1094.4	6.6
30°-40°	1845.4	11.2
40°-50°	2997.4	18.1
50°-60°	4696.4	28.4
60°-70°	4433.2	26.8
70°-80°	597.5	3.6
80°-90°	91.0	0.6
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°	16525.0	100.0
0°-180°	16525.0	100.0



--- HS — SS

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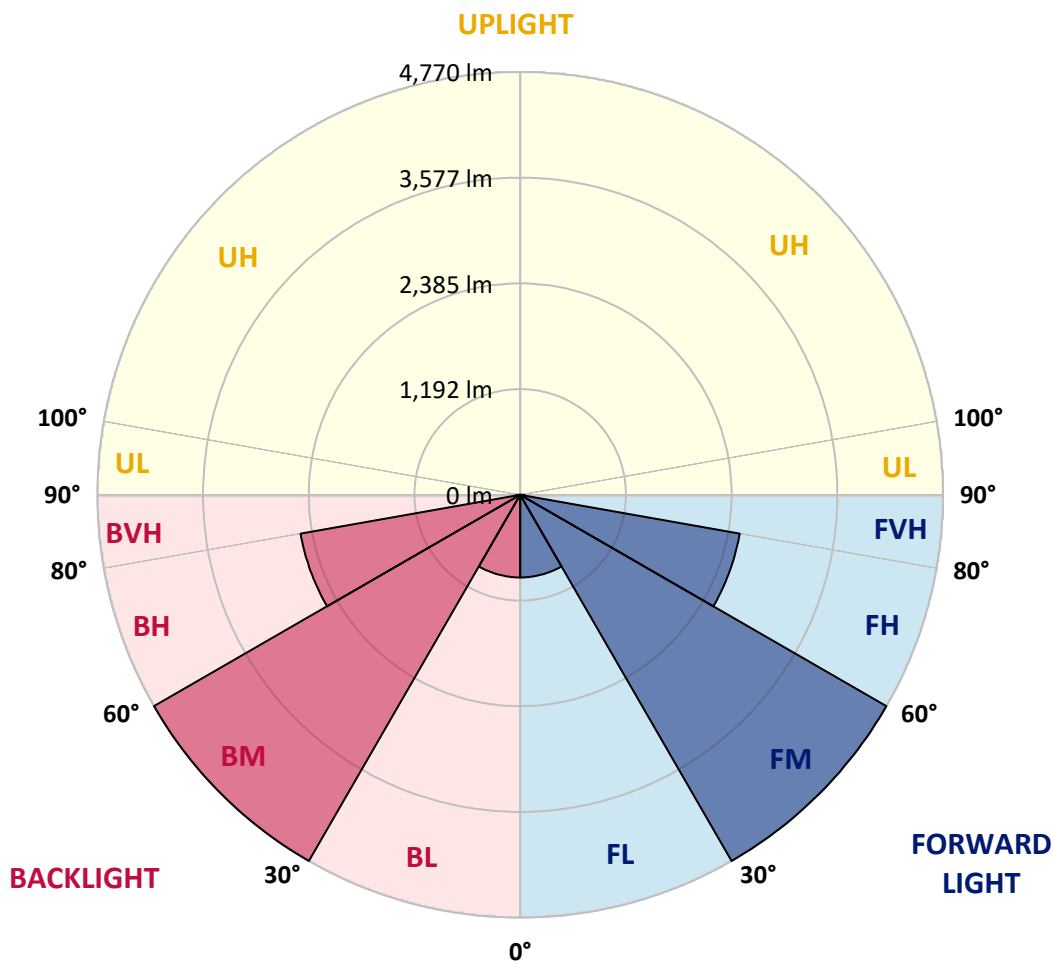
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	932.1	5.6			
FM (30°-60°)	4769.6	28.9			
FH (60°-80°)	2515.3	15.2			G2/5000
FVH (80°-90°)	45.5	0.3			G1/100
BL (0°-30°)	932.1	5.6	B2/1000		
BM (30°-60°)	4769.6	28.9	B3/5000		
BH (60°-80°)	2515.3	15.2	B4/5000		G2/5000
BVH (80°-90°)	45.5	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°	1879.7	1879.7	1879.7	1879.7	1879.7	1879.7	1879.7	1879.7	1879.7	1879.7	1879.7
2.5°	1895.1	1895.1	1898.2	1897.2	1893.1	1890.0	1886.9	1882.8	1880.7	1878.7	1877.6
5°	1905.4	1905.4	1908.5	1907.5	1904.4	1900.3	1898.2	1895.1	1892.1	1890.0	1891.0
7.5°	1931.2	1932.2	1933.2	1932.2	1929.1	1926.0	1921.9	1920.9	1916.8	1913.7	1915.7
10°	1970.3	1970.3	1971.3	1972.3	1970.3	1963.1	1963.1	1961.0	1956.9	1952.8	1953.8
12.5°	2013.5	2013.5	2014.6	2014.6	2014.6	2010.4	2011.5	2010.4	2005.3	2003.2	2005.3
15°	2055.7	2056.8	2056.8	2058.8	2058.8	2059.8	2064.0	2064.0	2061.9	2060.9	2060.9
17.5°	2105.1	2107.2	2108.2	2111.3	2112.3	2114.4	2118.5	2119.6	2120.6	2117.5	2118.5
20°	2171.0	2172.1	2175.1	2176.2	2180.3	2180.3	2182.3	2181.3	2179.3	2175.1	2175.1
22.5°	2245.1	2247.2	2253.4	2253.4	2258.5	2255.4	2256.5	2253.4	2248.2	2246.2	2244.1
25°	2341.9	2345.0	2350.1	2348.1	2350.1	2345.0	2345.0	2345.0	2341.9	2338.8	2337.8
27.5°	2464.4	2459.3	2464.4	2460.3	2459.3	2455.1	2456.2	2454.1	2451.0	2450.0	2445.9
30°	2592.0	2585.9	2589.0	2590.0	2587.9	2586.9	2582.8	2579.7	2574.5	2575.6	2572.5
32.5°	2738.2	2732.0	2735.1	2736.2	2734.1	2736.2	2735.1	2727.9	2721.8	2725.9	2725.9
35°	2912.2	2908.1	2916.3	2919.4	2913.2	2910.1	2906.0	2897.8	2888.5	2894.7	2895.7
37.5°	3121.2	3116.0	3122.2	3130.4	3119.1	3112.9	3096.5	3084.1	3077.9	3081.0	3085.1
40°	3338.4	3339.4	3356.9	3359.0	3346.6	3339.4	3322.9	3304.4	3286.9	3286.9	3292.0
42.5°	3566.9	3570.0	3590.6	3597.8	3593.7	3580.3	3557.6	3535.0	3512.3	3516.5	3522.6
45°	3825.3	3821.2	3842.8	3860.3	3857.2	3853.1	3831.5	3790.3	3769.7	3768.7	3779.0
47.5°	4097.0	4105.3	4127.9	4157.8	4156.7	4146.5	4118.7	4080.6	4042.5	4045.6	4057.9
50°	4414.1	4425.4	4463.5	4493.4	4497.5	4494.4	4461.5	4417.2	4363.7	4366.7	4383.2
52.5°	4698.2	4714.7	4759.0	4820.7	4858.8	4876.3	4854.7	4813.5	4759.0	4762.0	4779.5
55°	4955.6	4981.3	5047.2	5131.6	5207.8	5278.8	5310.7	5309.7	5269.5	5278.8	5301.5
57.5°	5117.2	5153.2	5253.1	5389.0	5540.3	5683.4	5806.9	5923.2	5948.9	5997.3	5997.3
60°	4900.0	4984.4	5117.2	5349.8	5647.3	5968.5	6316.4	6655.1	6873.4	7045.3	6952.6
62.5°	4091.9	4216.5	4402.8	4709.5	5172.8	5746.2	6445.1	7232.6	8054.1	8556.4	8187.9
65°	2647.6	2804.1	3006.9	3351.8	3935.4	4673.5	5691.6	7107.0	8826.1	9717.6	8894.1
67.5°	1049.0	1155.0	1278.5	1523.5	2030.0	2754.7	3897.3	5643.2	7793.6	8634.7	7711.3
70°	501.3	518.8	542.5	595.0	721.6	973.8	1565.7	2780.4	4779.5	5665.9	4665.3
72.5°	362.4	365.4	376.8	394.3	431.3	482.8	586.8	850.3	1648.1	2396.5	1650.1
75°	274.9	279.0	285.1	294.4	314.0	338.7	377.8	452.9	564.1	650.6	563.1
77.5°	209.0	213.1	218.2	227.5	237.8	255.3	269.7	299.6	346.9	365.4	363.4
80°	152.4	159.6	167.8	176.0	183.2	191.5	192.5	206.9	233.7	251.2	246.0
82.5°	96.8	102.9	124.6	133.8	134.9	136.9	135.9	136.9	151.3	163.7	159.6
85°	61.8	65.9	77.2	87.5	85.4	89.6	89.6	87.5	81.3	70.0	83.4
87.5°	30.9	31.9	37.1	46.3	44.3	39.1	38.1	38.1	27.8	23.7	25.7
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°	1879.7	1879.7	1879.7	1879.7	1879.7	1879.7	1879.7	1879.7
2.5°	1874.6	1876.6	1873.5	1873.5	1872.5	1874.6	1871.5	1871.5
5°	1889.0	1892.1	1891.0	1891.0	1893.1	1895.1	1894.1	1893.1
7.5°	1914.7	1916.8	1918.8	1919.8	1921.9	1920.9	1922.9	1921.9
10°	1953.8	1951.8	1954.8	1951.8	1952.8	1950.7	1951.8	1951.8
12.5°	2003.2	2000.1	1998.1	1996.0	1996.0	1991.9	1991.9	1992.9
15°	2059.8	2054.7	2050.6	2048.5	2046.5	2046.5	2043.4	2045.4
17.5°	2115.4	2110.3	2103.1	2103.1	2100.0	2097.9	2095.9	2101.0
20°	2174.1	2169.0	2164.8	2163.8	2157.6	2155.6	2156.6	2162.8
22.5°	2242.1	2239.0	2239.0	2236.9	2232.8	2229.7	2229.7	2236.9
25°	2333.7	2327.5	2328.5	2329.6	2327.5	2327.5	2325.4	2330.6
27.5°	2445.9	2440.7	2443.8	2445.9	2443.8	2446.9	2443.8	2447.9
30°	2577.6	2574.5	2577.6	2580.7	2575.6	2575.6	2573.5	2576.6
32.5°	2735.1	2731.0	2733.1	2733.1	2725.9	2719.7	2711.5	2717.6
35°	2908.1	2902.9	2907.0	2910.1	2901.9	2895.7	2883.4	2888.5
37.5°	3098.5	3100.6	3105.7	3119.1	3117.0	3106.8	3097.5	3101.6
40°	3311.6	3321.9	3344.5	3353.8	3351.8	3341.5	3329.1	3331.2
42.5°	3552.5	3565.9	3589.5	3605.0	3597.8	3583.4	3567.9	3574.1
45°	3815.0	3835.6	3866.5	3881.9	3872.6	3857.2	3835.6	3846.9
47.5°	4092.9	4134.1	4175.3	4195.9	4192.8	4171.2	4143.4	4146.5
50°	4425.4	4480.0	4532.5	4553.1	4537.6	4504.7	4465.6	4464.5
52.5°	4839.2	4897.9	4941.2	4936.0	4897.9	4846.5	4802.2	4800.1
55°	5356.0	5375.6	5369.4	5325.1	5258.2	5177.9	5121.3	5112.0
57.5°	5980.9	5915.0	5818.2	5684.4	5534.1	5381.7	5278.8	5240.7
60°	6744.7	6447.2	6101.3	5736.9	5404.4	5155.3	4997.8	4902.0
62.5°	7375.7	6514.1	5741.0	5107.9	4590.1	4282.3	4067.2	3934.4
65°	7159.5	5627.8	4507.8	3691.5	3126.3	2808.2	2580.7	2429.4
67.5°	5531.0	3760.4	2616.8	1813.8	1375.3	1164.3	1017.1	921.3
70°	2788.7	1442.2	874.0	616.6	527.1	490.0	465.3	450.9
72.5°	818.4	546.6	454.0	401.5	369.6	346.9	332.5	325.3
75°	452.9	369.6	326.3	296.5	275.9	260.4	251.2	245.0
77.5°	311.9	268.7	247.1	227.5	211.0	199.7	192.5	186.3
80°	218.2	196.6	187.4	177.1	164.7	155.4	145.1	141.0
82.5°	145.1	135.9	133.8	125.6	118.4	108.1	89.6	83.4
85°	85.4	84.4	84.4	81.3	76.2	66.9	53.5	53.5
87.5°	29.9	30.9	31.9	34.0	32.9	27.8	22.6	21.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)