

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: P195502

Luminaire Tested: **NAV-AF-04-D-UNV-5WQ-7050-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195502
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-04-D-UNV-5WQ-7050-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 27844 lumens
Efficiency: N/A
Efficacy: 107.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type V - Short - Semi-Cutoff
BUG Rating: B5 - U0 - G4

Input Watts (W): 258
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

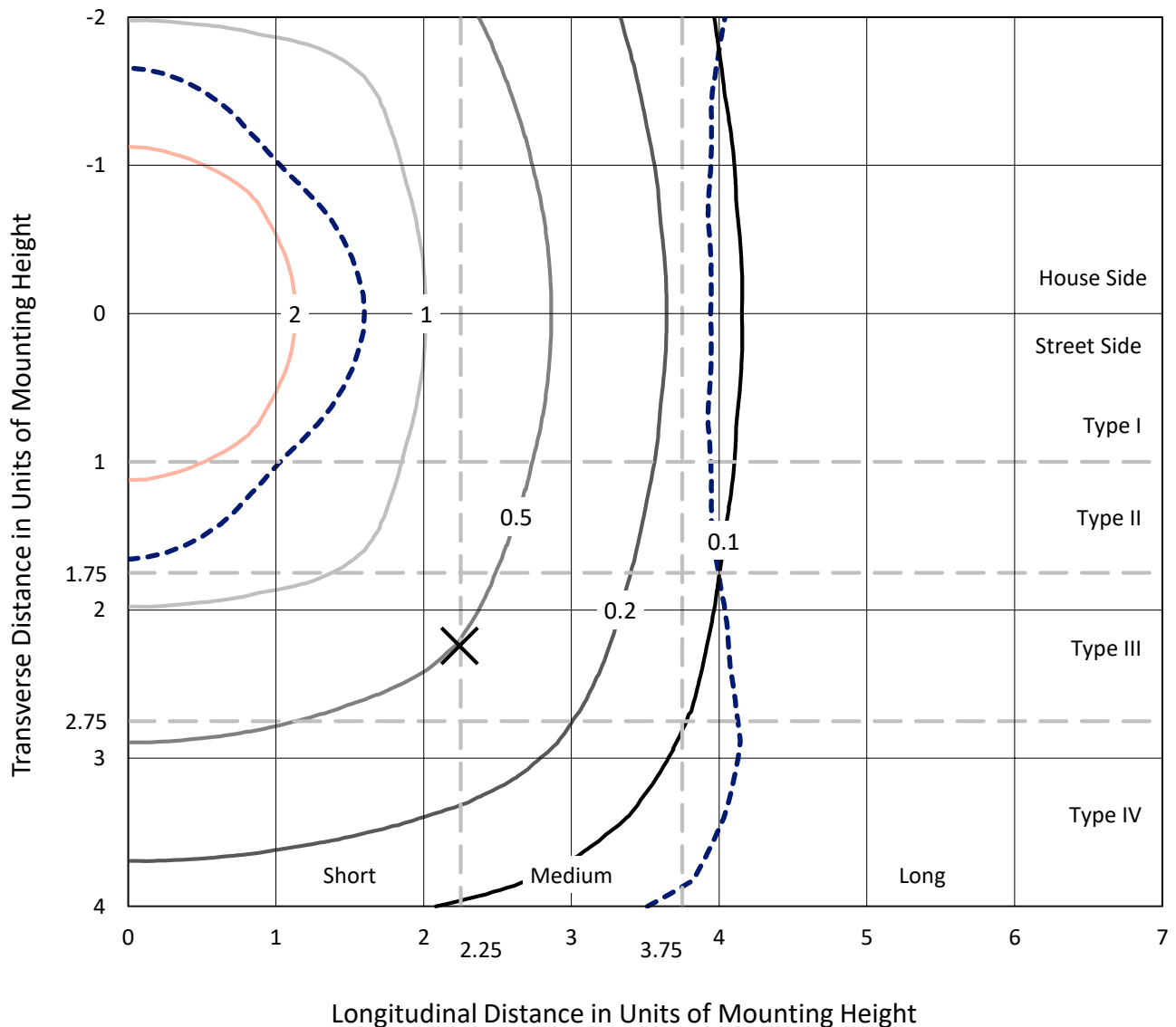


REPORT NUMBER: P195502

CATALOG NUMBER: NAV-AF-04-D-UNV-5WQ-7050-1200

Iso-Footcandle Lines of Horizontal Illumination

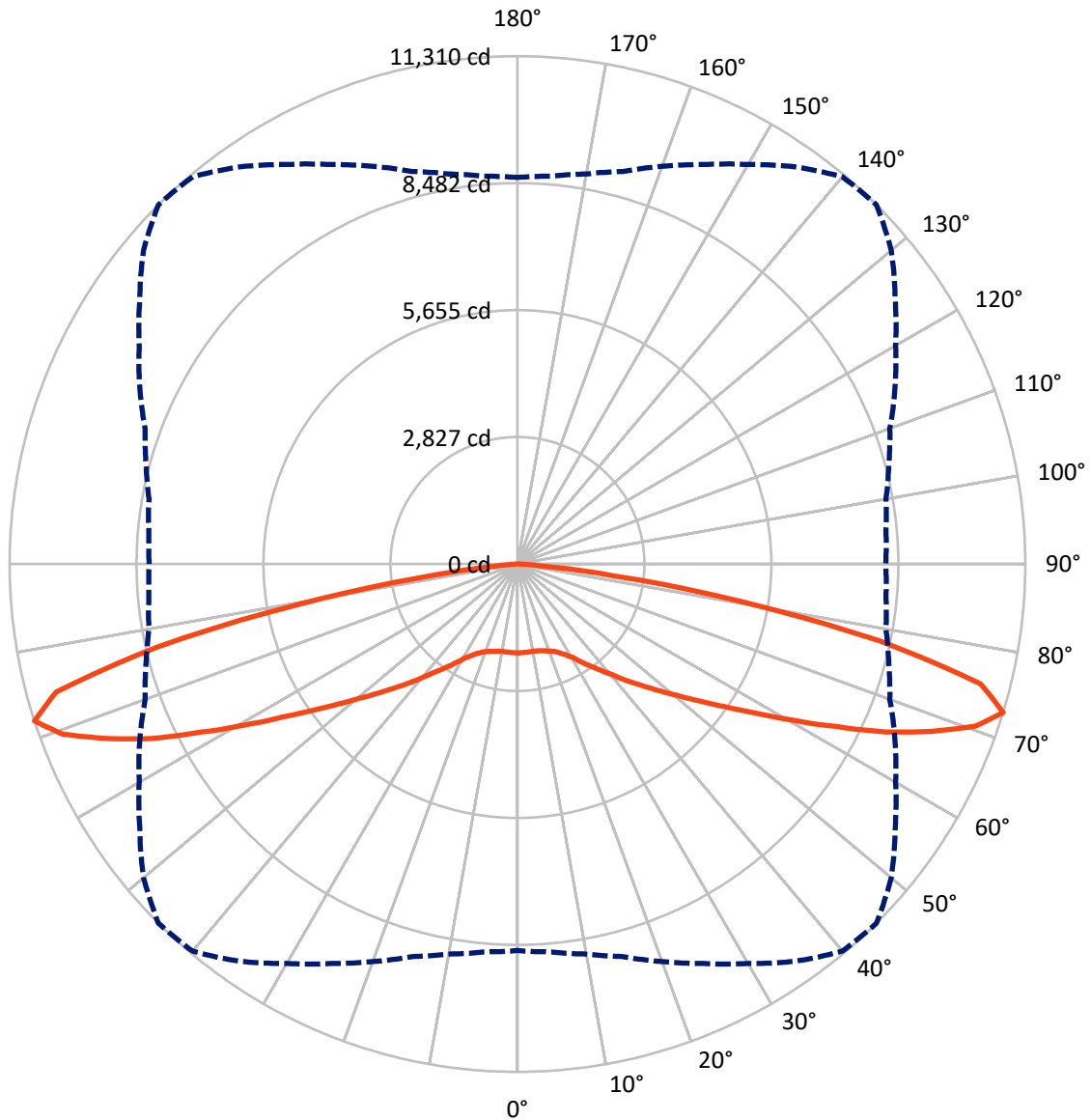
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.2 fc
 Type V - Short - Semi-Cutoff

REPORT NUMBER: P195502
CATALOG NUMBER: NAV-AF-04-D-UNV-5WQ-7050-1200

Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

REPORT NUMBER: P195502

CATALOG NUMBER: NAV-AF-04-D-UNV-5WQ-7050-1200

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	13922.0	0.0	13922.0
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	13922.0	0.0	13922.0
	% Fixture	50.0	0.0	50.0
Total	Lumens	27844.0	0.0	27844.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	188.9	0.7
10°-20°	571.8	2.1
20°-30°	1032.3	3.7
30°-40°	1760.8	6.3
40°-50°	2997.8	10.8
50°-60°	4824.5	17.3
60°-70°	8023.2	28.8
70°-80°	7761.5	27.9
80°-90°	683.1	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°	27844.0	100.0
0°-180°	27844.0	100.0



REPORT NUMBER: P195502

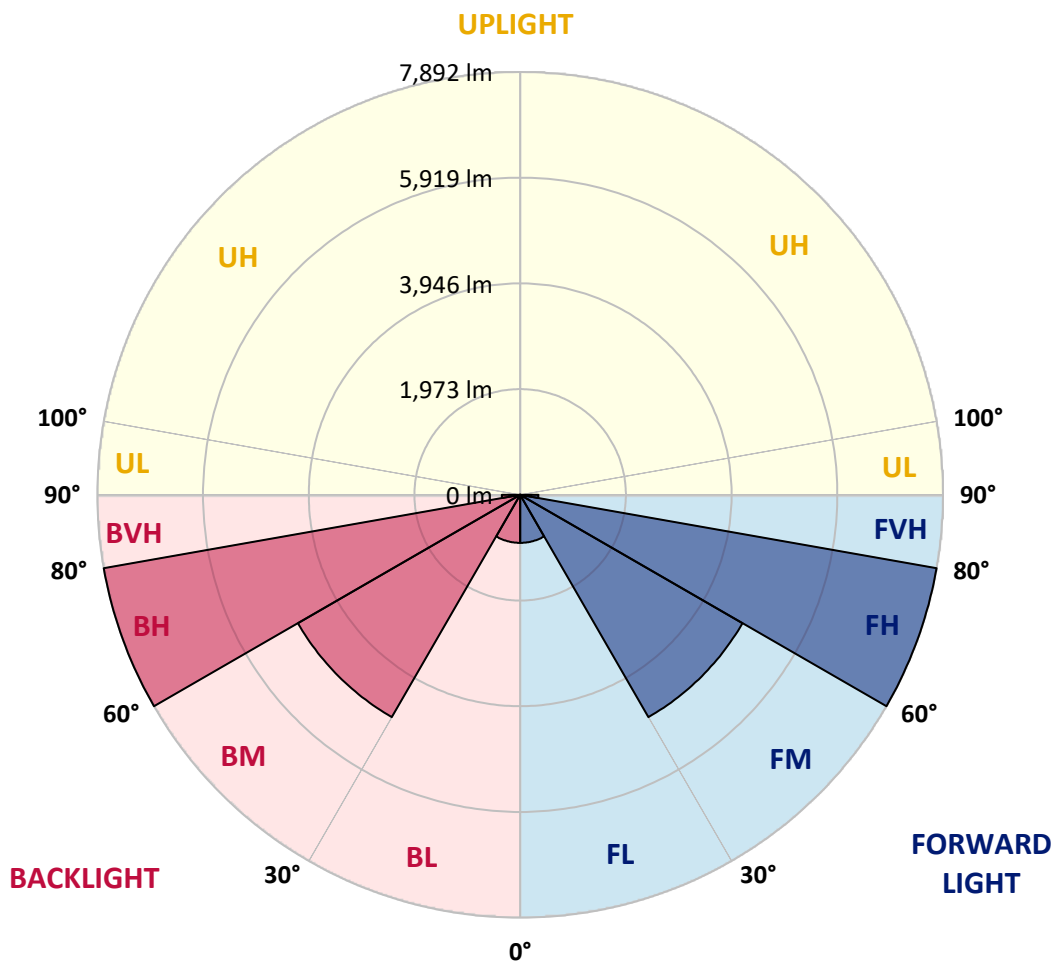
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	896.5	3.2			
FM	(30°-60°)	4791.5	17.2			
FH	(60°-80°)	7892.4	28.3			G4/12000
FVH	(80°-90°)	341.6	1.2			G3/500
BL	(0°-30°)	896.5	3.2	B2/1000		
BM	(30°-60°)	4791.5	17.2	B3/5000		
BH	(60°-80°)	7892.4	28.3	B5		G4/12000
BVH	(80°-90°)	341.6	1.2			G3/500
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B5-U0-G4

Type V Short





REPORT NUMBER: P195502

CATALOG NUMBER: NAV-AF-04-D-UNV-5WQ-7050-1200

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1979.5	1979.5	1979.5	1979.5	1979.5	1979.5	1979.5	1979.5	1979.5	1979.5	1979.5
2.5°	1994.9	1994.9	1996.6	1994.9	1991.5	1989.8	1984.6	1981.2	1977.8	1976.1	1972.6
5°	1996.6	1996.6	1998.4	1996.6	1993.2	1989.8	1986.4	1981.2	1977.8	1974.4	1972.6
7.5°	2003.5	2005.2	2006.9	2005.2	1998.4	1994.9	1989.8	1984.6	1977.8	1974.4	1970.9
10°	2017.2	2017.2	2017.2	2015.5	2010.3	2003.5	1996.6	1991.5	1982.9	1974.4	1969.2
12.5°	2027.5	2029.2	2029.2	2025.8	2018.9	2010.3	2003.5	1998.4	1991.5	1984.6	1979.5
15°	2042.9	2042.9	2041.2	2034.3	2024.1	2017.2	2013.8	2012.1	2010.3	2006.9	2001.8
17.5°	2073.8	2072.0	2066.9	2056.6	2044.6	2039.5	2036.1	2036.1	2036.1	2034.3	2030.9
20°	2118.3	2118.3	2111.5	2094.3	2084.0	2078.9	2073.8	2073.8	2073.8	2068.6	2063.5
22.5°	2190.3	2192.0	2181.7	2161.2	2147.5	2137.2	2130.3	2125.2	2120.0	2116.6	2108.0
25°	2288.0	2286.3	2274.3	2248.6	2238.3	2228.0	2214.3	2205.7	2198.9	2193.7	2183.4
27.5°	2390.8	2389.1	2375.4	2353.1	2346.3	2330.8	2320.6	2308.6	2300.0	2291.4	2281.1
30°	2522.8	2514.2	2503.9	2486.8	2483.4	2471.4	2457.7	2440.5	2426.8	2413.1	2401.1
32.5°	2641.0	2641.0	2625.6	2617.1	2623.9	2618.8	2620.5	2610.2	2601.6	2596.5	2584.5
35°	2805.6	2805.6	2798.7	2788.4	2790.2	2778.2	2776.4	2778.2	2785.0	2785.0	2771.3
37.5°	3024.9	3028.4	3006.1	3002.7	2994.1	2977.0	2968.4	2971.8	2987.2	2995.8	2977.0
40°	3297.5	3304.3	3297.5	3275.2	3264.9	3235.8	3218.6	3218.6	3230.6	3239.2	3232.3
42.5°	3566.5	3578.5	3566.5	3549.4	3540.8	3518.5	3510.0	3516.8	3532.2	3542.5	3532.2
45°	3866.5	3875.0	3859.6	3839.0	3828.7	3816.7	3811.6	3816.7	3833.9	3844.2	3840.7
47.5°	4161.2	4173.2	4154.4	4145.8	4145.8	4133.8	4147.5	4161.2	4176.7	4200.7	4190.4
50°	4449.2	4464.6	4452.6	4454.3	4468.0	4490.3	4516.0	4543.4	4570.8	4596.6	4600.0
52.5°	4706.2	4730.2	4731.9	4762.8	4805.6	4839.9	4911.9	4971.9	5037.0	5059.3	5049.0
55°	4977.0	5009.6	5052.4	5100.4	5169.0	5239.2	5360.9	5468.9	5554.6	5607.7	5599.2
57.5°	5364.4	5396.9	5441.5	5520.3	5623.1	5719.1	5885.4	6053.3	6183.6	6264.1	6224.7
60°	5866.5	5900.8	5959.1	6043.0	6176.7	6307.0	6534.9	6776.6	6978.8	7071.4	6999.4
62.5°	6531.5	6564.1	6601.8	6713.2	6862.3	7030.2	7316.4	7626.6	7883.7	7972.8	7871.7
65°	7479.3	7518.7	7530.7	7621.5	7767.2	7923.1	8231.6	8581.3	8874.3	9020.0	8817.8
67.5°	8547.0	8562.4	8610.4	8716.7	8865.8	9006.3	9249.7	9580.4	9861.5	9942.1	9726.1
70°	9172.5	9203.4	9287.4	9434.8	9613.0	9834.1	10099.7	10456.2	10775.0	10812.7	10538.5
72.5°	8607.0	8670.4	8819.5	9049.1	9422.8	9815.2	10272.8	10799.0	11256.6	11309.7	10869.3
75°	6903.4	6975.4	7153.6	7405.6	7847.7	8430.4	9092.0	9882.1	10567.6	10655.0	10072.3
77.5°	3679.6	3768.8	4027.6	4366.9	4997.6	5768.8	6565.8	7467.3	8050.0	8247.1	7827.2
80°	927.2	975.2	1100.3	1299.1	1725.8	2348.0	3035.2	4005.3	4728.5	5035.3	4728.5
82.5°	359.9	395.9	430.2	454.2	495.3	581.0	802.1	1307.7	1761.8	2169.7	1878.4
85°	138.8	147.4	212.5	241.7	241.7	265.6	305.1	359.9	445.6	486.7	407.9
87.5°	54.8	60.0	73.7	113.1	116.5	102.8	109.7	123.4	94.3	78.8	89.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P195502

CATALOG NUMBER: NAV-AF-04-D-UNV-5WQ-7050-1200

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1979.5	1979.5	1979.5	1979.5	1979.5	1979.5	1979.5	1979.5
2.5°	1970.9	1969.2	1965.8	1967.5	1965.8	1965.8	1965.8	1965.8
5°	1969.2	1969.2	1965.8	1965.8	1965.8	1967.5	1965.8	1965.8
7.5°	1967.5	1965.8	1962.4	1960.6	1960.6	1958.9	1958.9	1958.9
10°	1964.1	1960.6	1957.2	1955.5	1955.5	1952.1	1952.1	1952.1
12.5°	1972.6	1967.5	1964.1	1962.4	1962.4	1962.4	1964.1	1964.1
15°	1996.6	1986.4	1981.2	1979.5	1981.2	1984.6	1986.4	1988.1
17.5°	2022.3	2012.1	2003.5	2000.1	2001.8	2006.9	2012.1	2015.5
20°	2054.9	2046.3	2036.1	2032.6	2032.6	2039.5	2042.9	2048.1
22.5°	2101.2	2094.3	2085.8	2080.6	2077.2	2085.8	2090.9	2094.3
25°	2174.9	2168.0	2161.2	2156.0	2154.3	2162.9	2166.3	2168.0
27.5°	2272.6	2265.7	2262.3	2260.6	2255.4	2258.9	2264.0	2262.3
30°	2399.4	2404.5	2399.4	2399.4	2390.8	2394.3	2390.8	2387.4
32.5°	2569.1	2563.9	2548.5	2538.2	2526.2	2526.2	2521.1	2515.9
35°	2738.7	2721.6	2713.0	2718.2	2713.0	2716.5	2707.9	2699.3
37.5°	2939.3	2929.0	2927.3	2942.7	2939.3	2942.7	2942.7	2930.7
40°	3204.9	3198.0	3210.0	3235.8	3246.0	3244.3	3247.8	3232.3
42.5°	3510.0	3498.0	3503.1	3525.4	3537.4	3540.8	3539.1	3525.4
45°	3815.0	3818.5	3818.5	3842.5	3854.5	3861.3	3849.3	3844.2
47.5°	4159.5	4164.7	4152.7	4168.1	4171.5	4183.5	4173.2	4164.7
50°	4557.1	4538.3	4510.9	4516.0	4516.0	4512.6	4500.6	4490.3
52.5°	5001.0	4958.2	4906.8	4889.6	4870.8	4851.9	4827.9	4809.1
55°	5506.6	5432.9	5340.4	5297.5	5261.5	5218.7	5163.8	5145.0
57.5°	6092.7	5965.9	5842.5	5765.4	5672.9	5616.3	5546.0	5542.6
60°	6788.6	6617.2	6399.5	6284.7	6192.1	6125.3	6072.2	6051.6
62.5°	7592.4	7297.6	7062.8	6939.4	6831.4	6790.3	6723.4	6732.0
65°	8416.7	8116.8	7888.9	7789.5	7688.3	7660.9	7599.2	7621.5
67.5°	9309.6	9062.9	8812.6	8720.1	8627.5	8600.1	8536.7	8555.6
70°	10110.0	9796.4	9511.9	9330.2	9172.5	9045.7	8965.2	8932.6
72.5°	10269.4	9726.1	9278.8	8824.6	8562.4	8332.7	8238.5	8202.5
75°	9227.4	8384.2	7746.6	7213.6	6918.8	6584.6	6548.6	6498.9
77.5°	7177.6	6217.9	5446.6	4761.1	4365.2	3957.3	3816.7	3710.5
80°	4281.2	3290.6	2550.2	1787.5	1458.5	1174.0	1103.7	1030.0
82.5°	1532.2	982.0	661.5	515.9	461.0	425.0	397.6	361.6
85°	370.2	311.9	294.8	267.4	263.9	224.5	159.4	142.2
87.5°	118.3	108.0	109.7	104.5	109.7	82.3	66.8	60.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)