

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: P194957

Luminaire Tested: **NAV-AF-05-D-UNV-5MQ-7060-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P194957
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-05-D-UNV-5MQ-7060-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V MEDIUM OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 21099 lumens
Efficiency: N/A
Efficacy: 130.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B4 - U0 - G2

Input Watts (W): 162
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

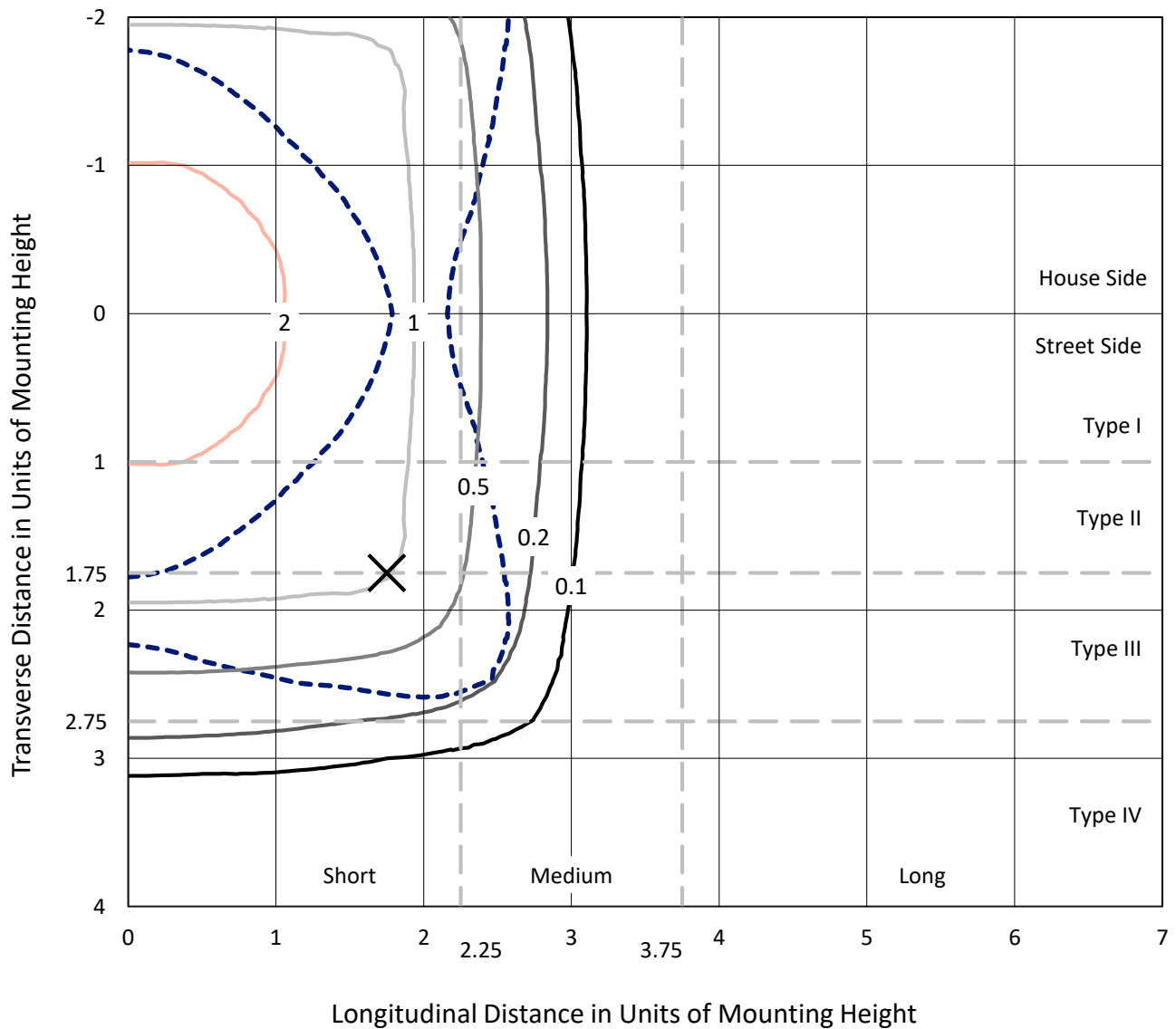


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Iso-Footcandle Lines of Horizontal Illumination

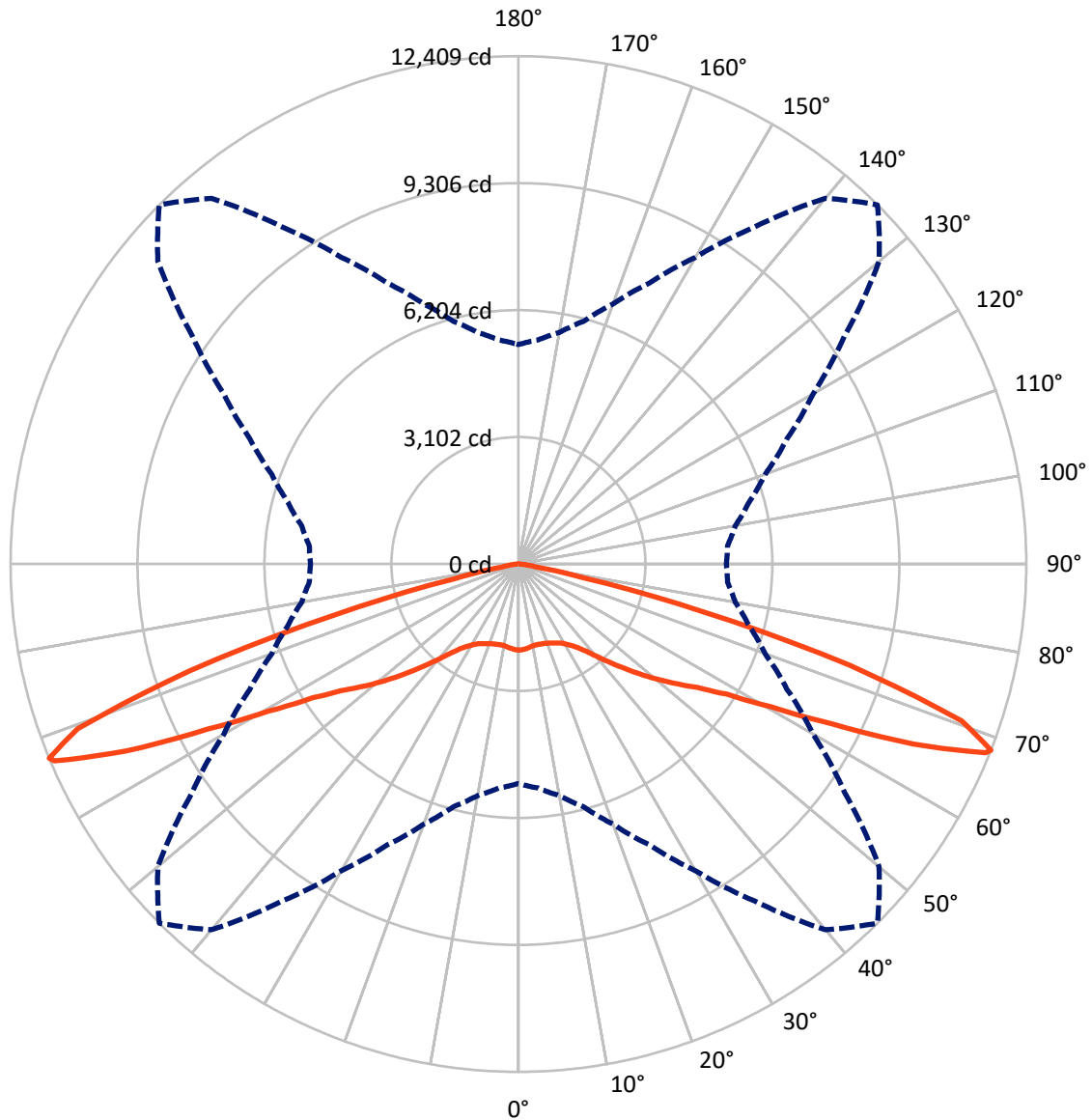
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.4 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	10549.5	0.0	10549.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	10549.5	0.0	10549.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	21099.0	0.0	21099.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	196.9	0.9
10°-20°	571.2	2.7
20°-30°	971.0	4.6
30°-40°	1589.1	7.5
40°-50°	2839.9	13.5
50°-60°	4796.2	22.7
60°-70°	7437.1	35.2
70°-80°	2557.0	12.1
80°-90°	140.5	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°	21099.0	100.0
0°-180°	21099.0	100.0



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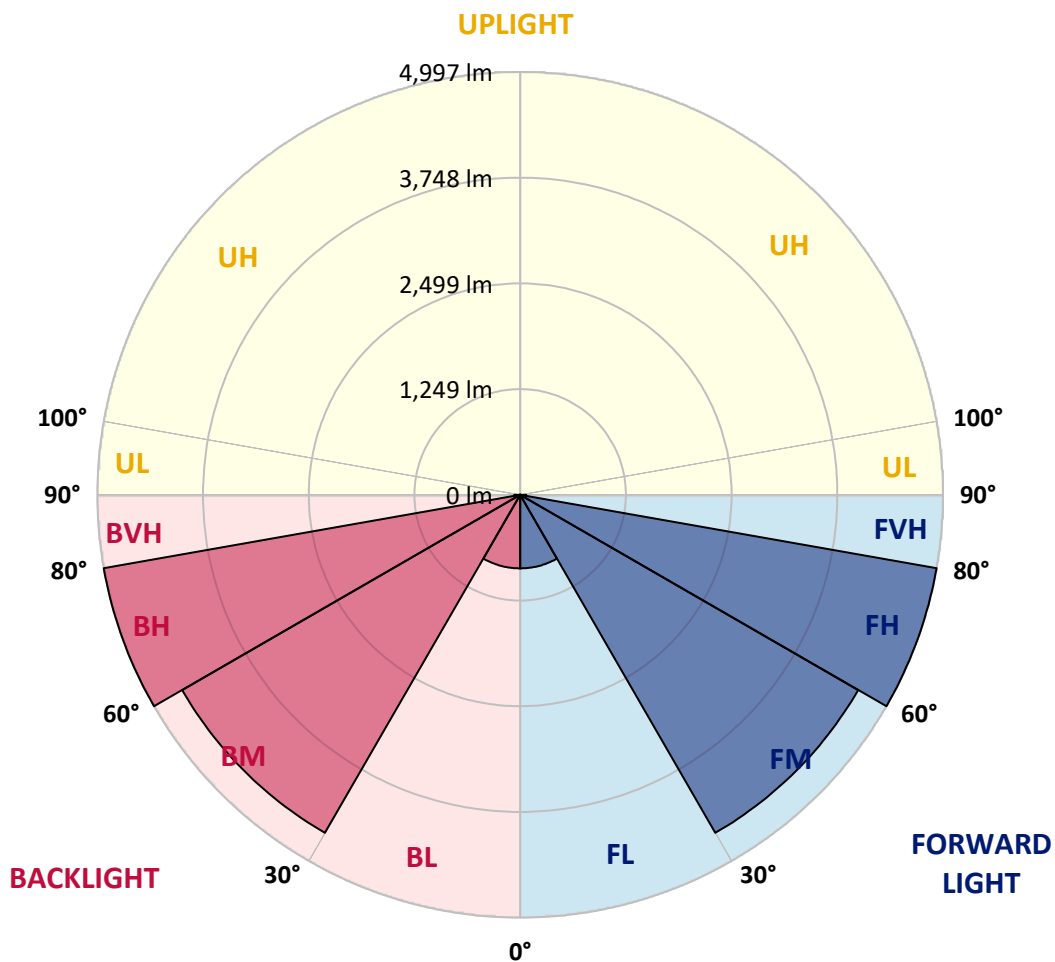
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	869.6	4.1			
FM	(30°-60°)	4612.6	21.9			
FH	(60°-80°)	4997.1	23.7			G2/5000
FVH	(80°-90°)	70.3	0.3			G1/100
BL	(0°-30°)	869.6	4.1	B2/1000		
BM	(30°-60°)	4612.6	21.9	B3/5000		
BH	(60°-80°)	4997.1	23.7	B4/5000		G2/5000
BVH	(80°-90°)	70.3	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°	2104.7	2104.7	2104.7	2104.7	2104.7	2104.7	2104.7	2104.7	2104.7	2104.7	2104.7
2.5°	2113.7	2113.7	2116.3	2115.0	2111.1	2107.3	2103.4	2099.5	2096.9	2094.4	2091.8
5°	2091.8	2091.8	2095.6	2093.1	2090.5	2086.6	2084.0	2080.1	2077.6	2075.0	2076.3
7.5°	2063.3	2065.9	2068.5	2067.2	2062.1	2060.8	2056.9	2055.6	2053.0	2049.1	2050.4
10°	2038.8	2040.1	2042.7	2041.4	2040.1	2036.2	2034.9	2033.6	2032.3	2027.2	2025.9
12.5°	2014.2	2016.8	2019.4	2020.7	2019.4	2020.7	2022.0	2023.3	2022.0	2019.4	2019.4
15°	1994.9	1997.5	2001.3	2005.2	2006.5	2014.2	2019.4	2024.6	2028.5	2029.8	2025.9
17.5°	1984.5	1988.4	1993.6	2001.3	2007.8	2016.8	2025.9	2033.6	2040.1	2041.4	2037.5
20°	1983.2	1987.1	1994.9	2003.9	2015.5	2027.2	2041.4	2053.0	2059.5	2063.3	2059.5
22.5°	1992.3	1997.5	2007.8	2019.4	2033.6	2049.1	2067.2	2080.1	2093.1	2098.2	2094.4
25°	2018.1	2023.3	2034.9	2049.1	2064.6	2084.0	2102.1	2118.9	2131.8	2138.3	2133.1
27.5°	2072.4	2073.7	2086.6	2102.1	2120.2	2137.0	2160.2	2168.0	2178.3	2184.8	2178.3
30°	2148.6	2151.2	2162.8	2187.4	2204.2	2226.1	2239.1	2246.8	2258.4	2264.9	2257.1
32.5°	2264.9	2267.5	2277.8	2301.1	2316.6	2333.4	2348.9	2354.0	2365.7	2373.4	2364.4
35°	2429.0	2434.2	2443.2	2458.7	2471.6	2484.5	2496.2	2492.3	2500.0	2510.4	2501.3
37.5°	2653.8	2652.5	2655.1	2666.7	2679.6	2687.4	2705.5	2696.4	2704.2	2713.2	2708.1
40°	2916.1	2916.1	2914.8	2935.5	2940.6	2948.4	2967.8	2956.1	2966.5	2976.8	2967.8
42.5°	3214.5	3219.7	3226.2	3243.0	3257.2	3259.7	3268.8	3263.6	3276.5	3285.6	3276.5
45°	3558.2	3566.0	3573.7	3612.5	3618.9	3624.1	3630.6	3613.8	3628.0	3635.7	3633.1
47.5°	3914.8	3929.0	3945.8	3985.9	4011.7	4023.3	4028.5	4009.1	4010.4	4022.0	4023.3
50°	4317.9	4333.4	4350.2	4395.4	4420.0	4440.6	4447.1	4425.1	4427.7	4436.8	4439.4
52.5°	4690.0	4708.1	4744.3	4805.0	4839.9	4876.1	4878.6	4851.5	4863.1	4869.6	4864.4
55°	5040.1	5063.4	5111.2	5192.6	5255.9	5327.0	5359.3	5329.6	5329.6	5324.4	5321.8
57.5°	5448.4	5474.3	5523.4	5617.7	5705.5	5807.6	5895.5	5925.2	5979.4	5997.5	5969.1
60°	6063.4	6090.5	6140.9	6265.0	6376.1	6524.7	6669.4	6786.9	6978.2	7081.5	6988.5
62.5°	6625.4	6666.8	6785.6	7002.7	7243.0	7518.2	7837.3	8064.7	8412.3	8585.4	8351.6
65°	6497.5	6581.5	6814.1	7155.2	7651.3	8248.2	8898.1	9522.1	10240.5	10608.7	10133.3
67.5°	5675.8	5746.9	5997.5	6394.2	7013.0	7836.1	8846.4	10138.4	11620.4	12310.3	11469.2
68°	5361.9	5494.9	5744.3	6138.4	6762.4	7571.2	8650.0	10045.4	11663.0	12408.5	11500.2
70°	4111.2	4159.0	4398.0	4752.0	5425.2	6218.5	7307.6	8898.1	10726.3	11493.7	10559.6
72.5°	1953.5	1981.9	2137.0	2485.8	2913.5	3559.5	4520.8	6020.8	7668.1	8466.6	7535.0
75°	715.8	722.2	758.4	841.1	1001.3	1244.2	1705.5	2638.3	3905.8	4657.7	3921.3
77.5°	386.3	387.6	401.8	422.5	450.9	483.2	553.0	741.6	1196.4	1627.9	1263.6
80°	242.9	241.6	255.8	272.6	292.0	307.5	314.0	335.9	378.6	443.2	407.0
82.5°	124.0	135.7	168.0	186.0	214.5	219.6	213.2	211.9	224.8	242.9	250.7
85°	68.5	60.7	89.1	118.9	129.2	133.1	134.4	126.6	124.0	121.4	127.9
87.5°	34.9	32.3	38.8	59.4	63.3	51.7	53.0	45.2	31.0	31.0	32.3
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°	2104.7	2104.7	2104.7	2104.7	2104.7	2104.7	2104.7	2104.7
2.5°	2089.2	2090.5	2087.9	2087.9	2087.9	2089.2	2087.9	2086.6
5°	2072.4	2075.0	2075.0	2076.3	2077.6	2077.6	2077.6	2077.6
7.5°	2047.8	2049.1	2051.7	2051.7	2051.7	2051.7	2051.7	2051.7
10°	2024.6	2022.0	2020.7	2018.1	2018.1	2014.2	2015.5	2016.8
12.5°	2013.0	2007.8	2005.2	2001.3	1998.7	1994.9	1994.9	1996.2
15°	2018.1	2010.4	2002.6	2000.0	1997.5	1994.9	1992.3	1993.6
17.5°	2028.5	2019.4	2010.4	2005.2	2000.0	1996.2	1994.9	1996.2
20°	2050.4	2037.5	2023.3	2014.2	2003.9	2001.3	1997.5	2001.3
22.5°	2080.1	2064.6	2046.5	2029.8	2018.1	2013.0	2007.8	2011.7
25°	2116.3	2099.5	2081.4	2062.1	2049.1	2045.3	2038.8	2038.8
27.5°	2166.7	2152.5	2137.0	2118.9	2106.0	2102.1	2091.8	2091.8
30°	2246.8	2232.6	2218.4	2202.9	2190.0	2186.1	2173.2	2173.2
32.5°	2352.8	2337.3	2328.2	2315.3	2304.9	2298.5	2283.0	2281.7
35°	2494.9	2480.7	2479.4	2470.3	2460.0	2461.3	2445.8	2443.2
37.5°	2699.0	2687.4	2691.3	2683.5	2674.5	2682.2	2673.2	2673.2
40°	2960.0	2956.1	2960.0	2954.8	2956.1	2957.4	2949.7	2952.2
42.5°	3275.3	3264.9	3288.2	3285.6	3281.7	3292.0	3274.0	3261.0
45°	3638.3	3634.4	3657.7	3661.6	3653.8	3660.3	3628.0	3626.7
47.5°	4032.4	4032.4	4053.0	4050.5	4042.7	4044.0	4005.2	3980.7
50°	4443.2	4440.6	4461.3	4456.2	4445.8	4444.5	4404.5	4379.9
52.5°	4870.9	4870.9	4900.6	4886.4	4861.8	4850.2	4801.1	4768.8
55°	5343.8	5337.3	5346.3	5299.8	5252.0	5217.1	5156.4	5131.9
57.5°	5942.0	5867.0	5802.4	5743.0	5675.8	5634.5	5563.4	5537.6
60°	6790.8	6590.6	6504.0	6385.1	6274.0	6218.5	6124.1	6073.7
62.5°	7966.5	7634.5	7399.4	7137.1	6883.8	6705.5	6562.1	6498.8
65°	9325.7	8602.2	8004.0	7442.0	6965.2	6586.7	6376.1	6310.2
67.5°	9842.5	8514.4	7482.0	6675.8	6097.0	5646.1	5394.2	5341.2
68°	9732.7	8312.8	7240.4	6414.8	5833.4	5378.6	5128.0	5080.2
70°	8585.4	7013.0	5881.2	5059.5	4516.9	4084.1	3907.0	3830.8
72.5°	5852.8	4504.0	3454.8	2763.6	2357.9	2084.0	1921.2	1865.7
75°	2693.8	1820.4	1215.8	908.3	771.3	705.4	655.1	642.1
77.5°	785.5	571.1	491.0	454.8	427.7	404.4	387.6	386.3
80°	373.4	350.1	339.8	316.5	292.0	270.0	254.5	257.1
82.5°	250.7	244.2	244.2	220.9	182.2	156.3	129.2	116.3
85°	133.1	138.2	146.0	138.2	120.2	89.1	58.1	63.3
87.5°	45.2	51.7	54.3	53.0	47.8	36.2	27.1	27.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)