

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: P196888

Luminaire Tested: **NAV-AF-04-D-UNV-5MQ-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196888
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-04-D-UNV-5MQ-8030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V
MEDIUM OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 21201 lumens
Efficiency: N/A
Efficacy: 94.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B5 - U0 - G3

Input Watts (W): 225
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

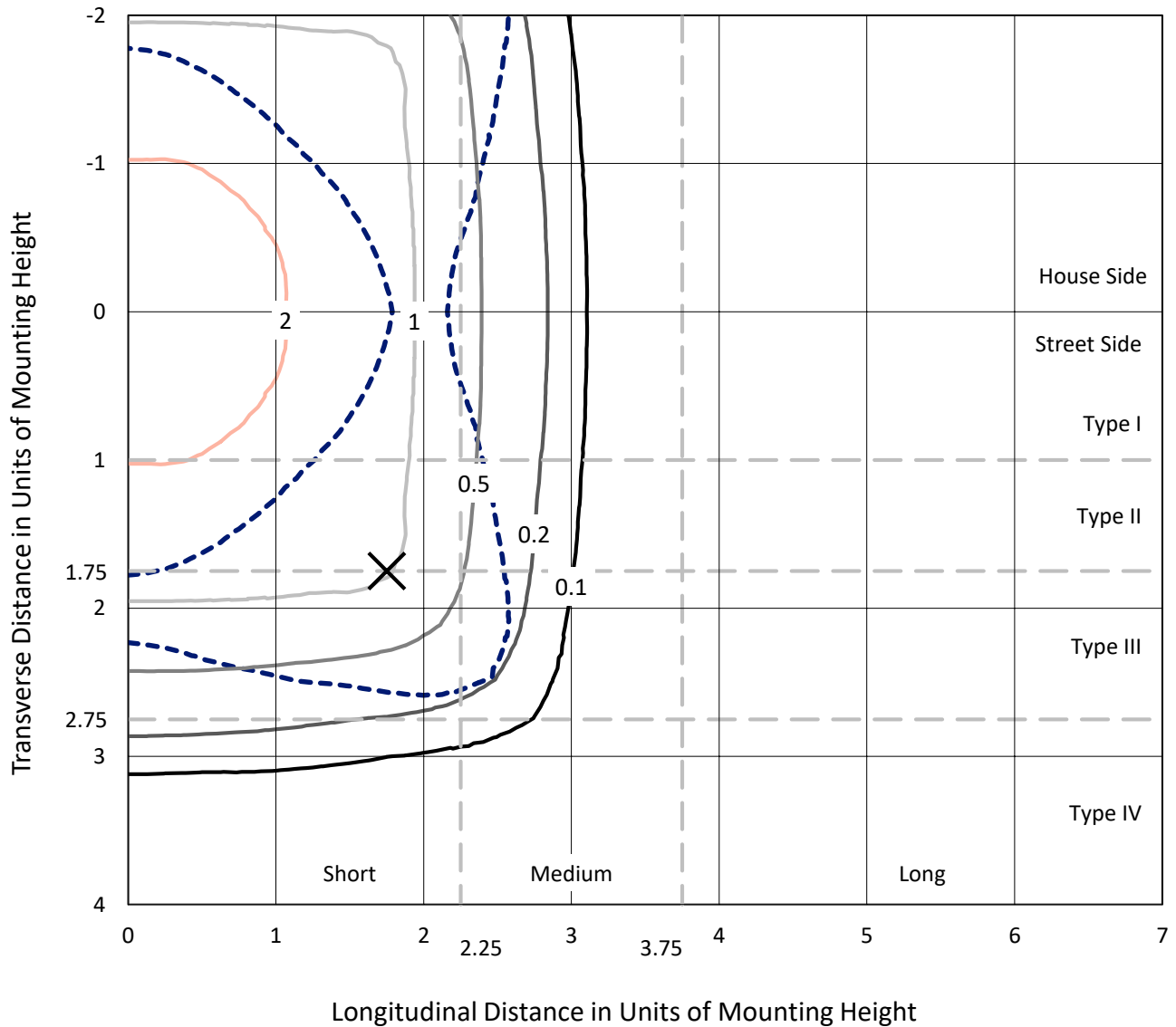


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

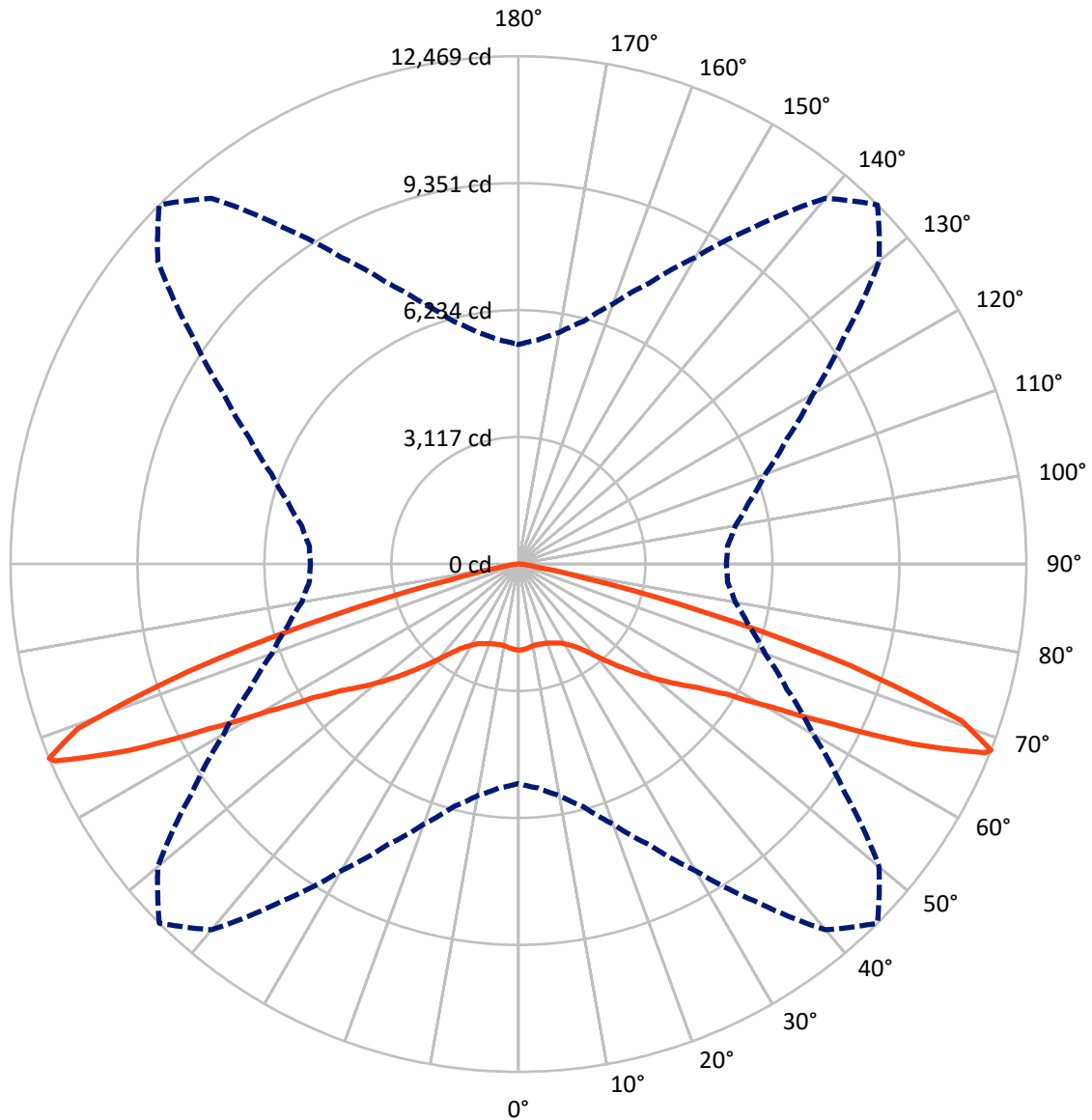


Based on 25 foot mounting height. Maximum calculated value = 3.4 fc
 Type V - Short - Full Cutoff

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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	10600.5	0.0	10600.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	10600.5	0.0	10600.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	21201.0	0.0	21201.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	197.9	0.9
10°-20°	573.9	2.7
20°-30°	975.7	4.6
30°-40°	1596.8	7.5
40°-50°	2853.6	13.5
50°-60°	4819.4	22.7
60°-70°	7473.0	35.2
70°-80°	2569.4	12.1
80°-90°	141.2	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°	21201.0	100.0
0°-180°	21201.0	100.0



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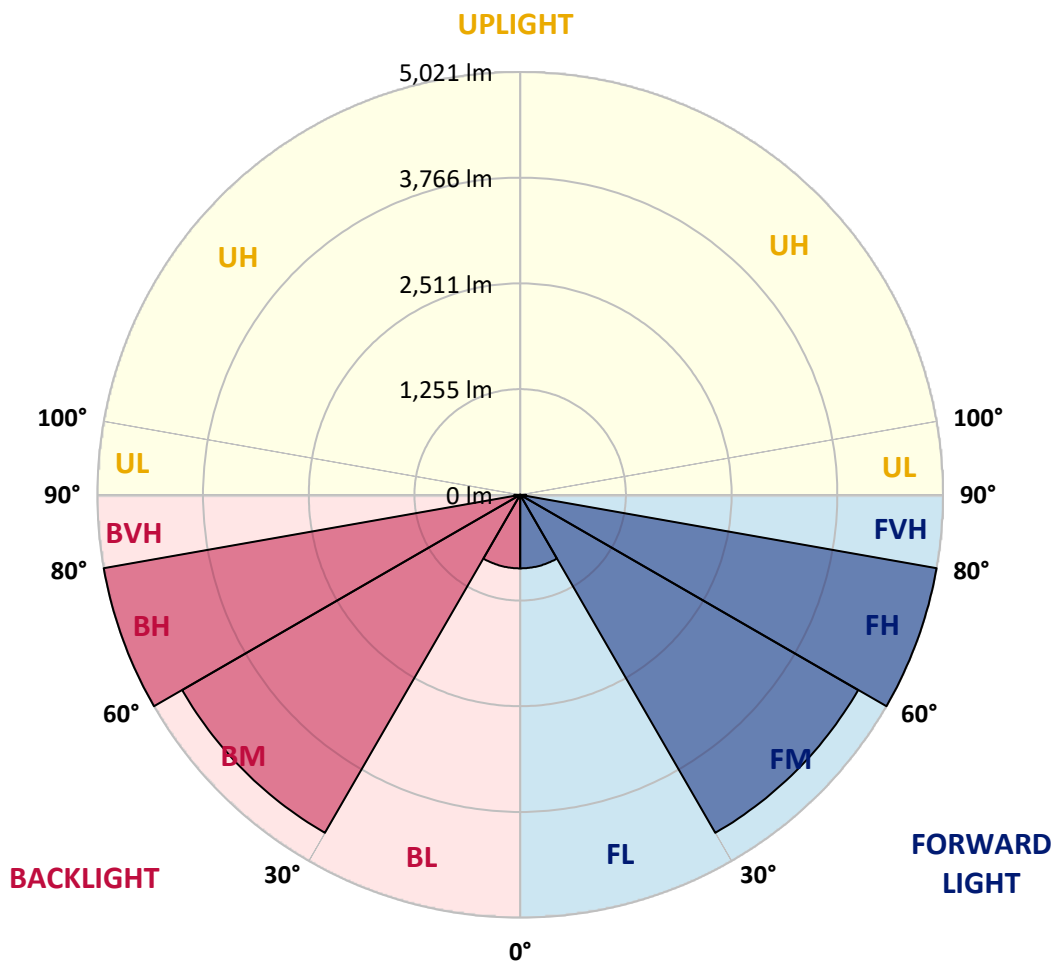
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	873.8	4.1			
FM	(30°-60°)	4634.9	21.9			
FH	(60°-80°)	5021.2	23.7			G3/7500
FVH	(80°-90°)	70.6	0.3			G1/100
BL	(0°-30°)	873.8	4.1	B2/1000		
BM	(30°-60°)	4634.9	21.9	B3/5000		
BH	(60°-80°)	5021.2	23.7	B5		G3/7500
BVH	(80°-90°)	70.6	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B5-U0-G3

Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2114.9	2114.9	2114.9	2114.9	2114.9	2114.9	2114.9	2114.9	2114.9	2114.9	2114.9
2.5°	2124.0	2124.0	2126.5	2125.2	2121.4	2117.5	2113.6	2109.7	2107.1	2104.5	2101.9
5°	2101.9	2101.9	2105.8	2103.2	2100.6	2096.7	2094.1	2090.2	2087.6	2085.0	2086.3
7.5°	2073.3	2075.9	2078.5	2077.2	2072.0	2070.7	2066.8	2065.5	2062.9	2059.0	2060.3
10°	2048.7	2049.9	2052.5	2051.2	2049.9	2046.1	2044.8	2043.5	2042.2	2037.0	2035.7
12.5°	2024.0	2026.6	2029.2	2030.5	2029.2	2030.5	2031.8	2033.1	2031.8	2029.2	2029.2
15°	2004.5	2007.1	2011.0	2014.9	2016.2	2024.0	2029.2	2034.4	2038.3	2039.6	2035.7
17.5°	1994.1	1998.0	2003.2	2011.0	2017.5	2026.6	2035.7	2043.5	2049.9	2051.2	2047.4
20°	1992.8	1996.7	2004.5	2013.6	2025.3	2037.0	2051.2	2062.9	2069.4	2073.3	2069.4
22.5°	2001.9	2007.1	2017.5	2029.2	2043.5	2059.0	2077.2	2090.2	2103.2	2108.4	2104.5
25°	2027.9	2033.1	2044.8	2059.0	2074.6	2094.1	2112.3	2129.1	2142.1	2148.6	2143.4
27.5°	2082.4	2083.7	2096.7	2112.3	2130.4	2147.3	2170.7	2178.5	2188.9	2195.4	2188.9
30°	2159.0	2161.6	2173.3	2198.0	2214.8	2236.9	2249.9	2257.7	2269.4	2275.8	2268.1
32.5°	2275.8	2278.4	2288.8	2312.2	2327.8	2344.7	2360.2	2365.4	2377.1	2384.9	2375.8
35°	2440.7	2445.9	2455.0	2470.6	2483.6	2496.6	2508.2	2504.3	2512.1	2522.5	2513.4
37.5°	2666.6	2665.3	2667.9	2679.6	2692.6	2700.4	2718.6	2709.5	2717.3	2726.3	2721.1
40°	2930.2	2930.2	2928.9	2949.6	2954.8	2962.6	2982.1	2970.4	2980.8	2991.2	2982.1
42.5°	3230.1	3235.3	3241.8	3258.6	3272.9	3275.5	3284.6	3279.4	3292.4	3301.5	3292.4
45°	3575.4	3583.2	3591.0	3629.9	3636.4	3641.6	3648.1	3631.2	3645.5	3653.3	3650.7
47.5°	3933.7	3948.0	3964.9	4005.1	4031.1	4042.8	4048.0	4028.5	4029.8	4041.5	4042.8
50°	4338.8	4354.4	4371.2	4416.7	4441.3	4462.1	4468.6	4446.5	4449.1	4458.2	4460.8
52.5°	4712.7	4730.9	4767.2	4828.2	4863.3	4899.6	4902.2	4875.0	4886.6	4893.1	4887.9
55°	5064.5	5087.9	5135.9	5217.7	5281.3	5352.7	5385.2	5355.3	5355.3	5350.1	5347.5
57.5°	5474.8	5500.7	5550.1	5644.8	5733.1	5835.7	5924.0	5953.8	6008.3	6026.5	5998.0
60°	6092.7	6120.0	6170.6	6295.3	6406.9	6556.2	6701.6	6819.8	7011.9	7115.8	7022.3
62.5°	6657.5	6699.0	6818.5	7036.6	7278.0	7554.6	7875.2	8103.7	8453.0	8626.9	8391.9
65°	6528.9	6613.3	6847.0	7189.8	7688.3	8288.1	8941.1	9568.2	10290.0	10660.0	10182.2
67.5°	5703.2	5774.7	6026.5	6425.1	7046.9	7873.9	8889.2	10187.4	11676.5	12369.8	11524.6
68°	5387.8	5521.5	5772.1	6168.0	6795.1	7607.8	8691.8	10094.0	11719.4	12468.5	11555.8
70°	4131.1	4179.1	4419.3	4775.0	5451.4	6248.5	7342.9	8941.1	10778.1	11549.3	10610.7
72.5°	1963.0	1991.5	2147.3	2497.8	2927.6	3576.7	4542.6	6049.9	7705.2	8507.5	7571.4
75°	719.2	725.7	762.1	845.2	1006.2	1250.2	1713.7	2651.0	3924.6	4680.2	3940.2
77.5°	388.2	389.5	403.8	424.5	453.1	485.5	555.7	745.2	1202.2	1635.8	1269.7
80°	244.1	242.8	257.1	273.9	293.4	309.0	315.5	337.5	380.4	445.3	409.0
82.5°	124.6	136.3	168.8	186.9	215.5	220.7	214.2	212.9	225.9	244.1	251.9
85°	68.8	61.0	89.6	119.4	129.8	133.7	135.0	127.2	124.6	122.0	128.5
87.5°	35.1	32.5	38.9	59.7	63.6	51.9	53.2	45.4	31.2	31.2	32.5
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°	2114.9	2114.9	2114.9	2114.9	2114.9	2114.9	2114.9	2114.9
2.5°	2099.3	2100.6	2098.0	2098.0	2098.0	2099.3	2098.0	2096.7
5°	2082.4	2085.0	2085.0	2086.3	2087.6	2087.6	2087.6	2087.6
7.5°	2057.7	2059.0	2061.6	2061.6	2061.6	2061.6	2061.6	2061.6
10°	2034.4	2031.8	2030.5	2027.9	2027.9	2024.0	2025.3	2026.6
12.5°	2022.7	2017.5	2014.9	2011.0	2008.4	2004.5	2004.5	2005.8
15°	2027.9	2020.1	2012.3	2009.7	2007.1	2004.5	2001.9	2003.2
17.5°	2038.3	2029.2	2020.1	2014.9	2009.7	2005.8	2004.5	2005.8
20°	2060.3	2047.4	2033.1	2024.0	2013.6	2011.0	2007.1	2011.0
22.5°	2090.2	2074.6	2056.4	2039.6	2027.9	2022.7	2017.5	2021.4
25°	2126.5	2109.7	2091.5	2072.0	2059.0	2055.1	2048.7	2048.7
27.5°	2177.2	2162.9	2147.3	2129.1	2116.2	2112.3	2101.9	2101.9
30°	2257.7	2243.4	2229.1	2213.5	2200.5	2196.7	2183.7	2183.7
32.5°	2364.1	2348.5	2339.5	2326.5	2316.1	2309.6	2294.0	2292.7
35°	2506.9	2492.7	2491.4	2482.3	2471.9	2473.2	2457.6	2455.0
37.5°	2712.1	2700.4	2704.3	2696.5	2687.4	2695.2	2686.1	2686.1
40°	2974.3	2970.4	2974.3	2969.1	2970.4	2971.7	2963.9	2966.5
42.5°	3291.1	3280.7	3304.1	3301.5	3297.6	3308.0	3289.8	3276.8
45°	3655.9	3652.0	3675.4	3679.3	3671.5	3678.0	3645.5	3644.2
47.5°	4051.9	4051.9	4072.6	4070.0	4062.3	4063.5	4024.6	3999.9
50°	4464.7	4462.1	4482.9	4477.7	4467.3	4466.0	4425.8	4401.1
52.5°	4894.4	4894.4	4924.3	4910.0	4885.3	4873.7	4824.3	4791.9
55°	5369.6	5363.1	5372.2	5325.5	5277.4	5242.4	5181.3	5156.7
57.5°	5970.7	5895.4	5830.5	5770.8	5703.2	5661.7	5590.3	5564.3
60°	6823.6	6622.4	6535.4	6416.0	6304.3	6248.5	6153.7	6103.1
62.5°	8005.1	7671.4	7435.1	7171.6	6917.1	6738.0	6593.9	6530.2
65°	9370.8	8643.8	8042.7	7478.0	6998.9	6618.5	6406.9	6340.7
67.5°	9890.1	8555.5	7518.2	6708.1	6126.5	5673.4	5420.2	5367.0
68°	9779.8	8353.0	7275.4	6445.9	5861.6	5404.6	5152.8	5104.8
70°	8626.9	7046.9	5909.7	5084.0	4538.7	4103.8	3925.9	3849.3
72.5°	5881.1	4525.7	3471.5	2777.0	2369.3	2094.1	1930.5	1874.7
75°	2706.9	1829.2	1221.7	912.7	775.1	708.8	658.2	645.2
77.5°	789.3	573.8	493.3	457.0	429.7	406.4	389.5	388.2
80°	375.2	351.8	341.4	318.1	293.4	271.3	255.8	258.4
82.5°	251.9	245.4	245.4	222.0	183.1	157.1	129.8	116.8
85°	133.7	138.9	146.7	138.9	120.7	89.6	58.4	63.6
87.5°	45.4	51.9	54.5	53.2	48.0	36.4	27.3	27.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)