

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: P195982

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195982
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-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 4000K, 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: 28483.1 lumens
Efficiency: N/A
Efficacy: 110.4 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

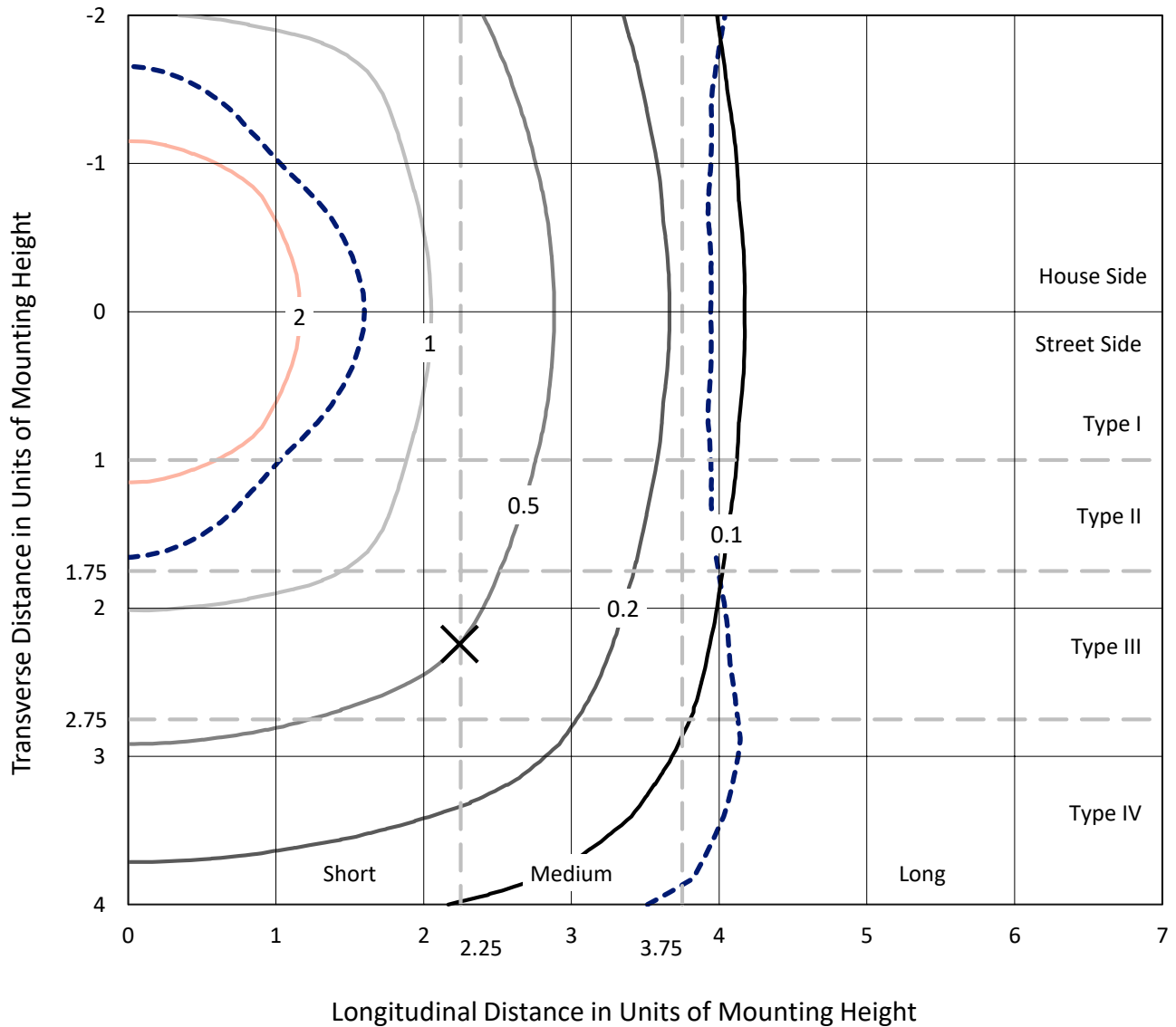


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

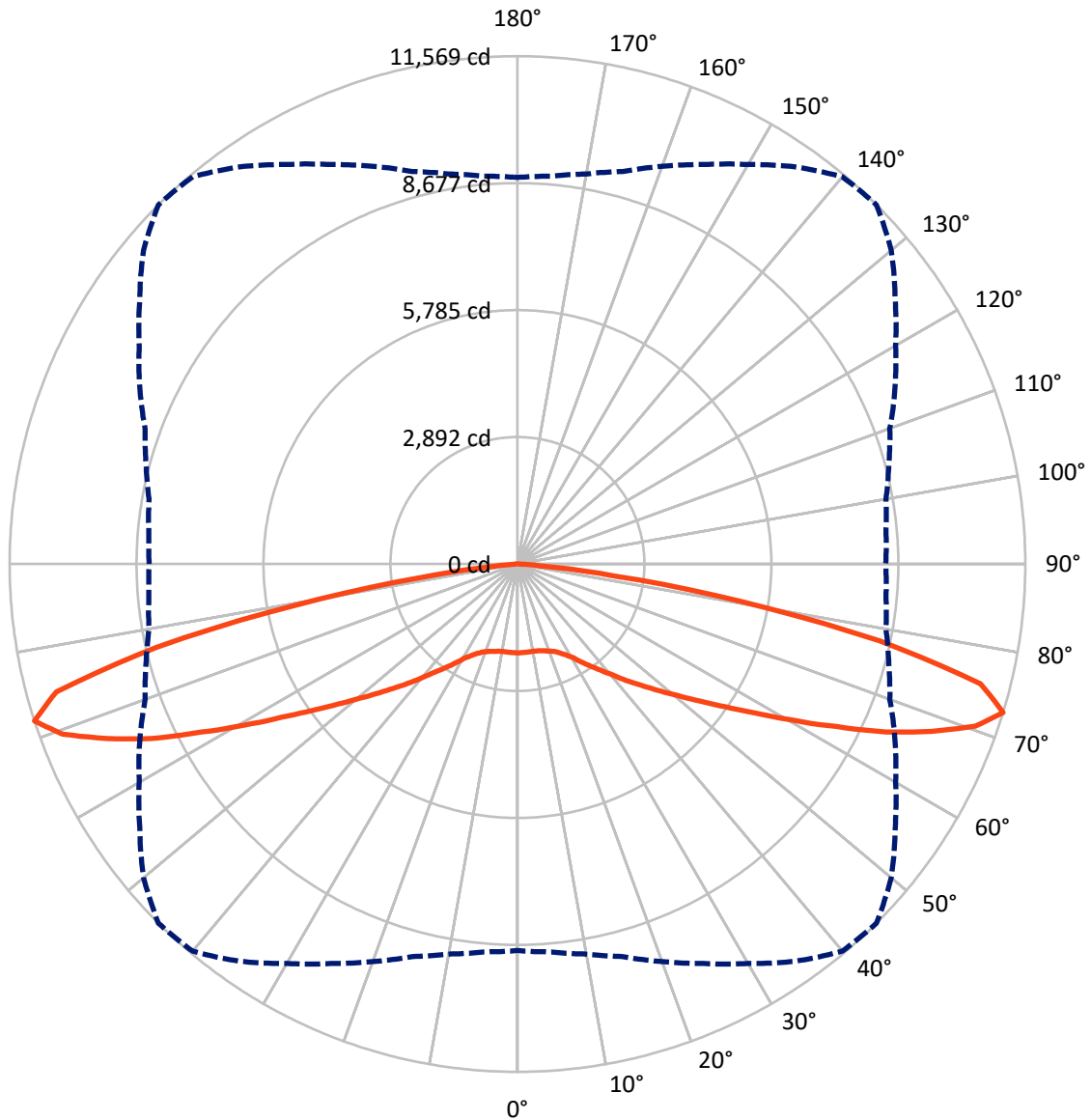


Based on 25 foot mounting height. Maximum calculated value = 3.2 fc
 Type V - Short - Semi-Cutoff

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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	14241.5	0.0	14241.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	14241.5	0.0	14241.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	28483.1	0.0	28483.1
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	193.3	0.7
10°-20°	584.9	2.1
20°-30°	1056.0	3.7
30°-40°	1801.2	6.3
40°-50°	3066.6	10.8
50°-60°	4935.2	17.3
60°-70°	8207.4	28.8
70°-80°	7939.7	27.9
80°-90°	698.8	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°	28483.1	100.0
0°-180°	28483.1	100.0

Coefficient of Utilization



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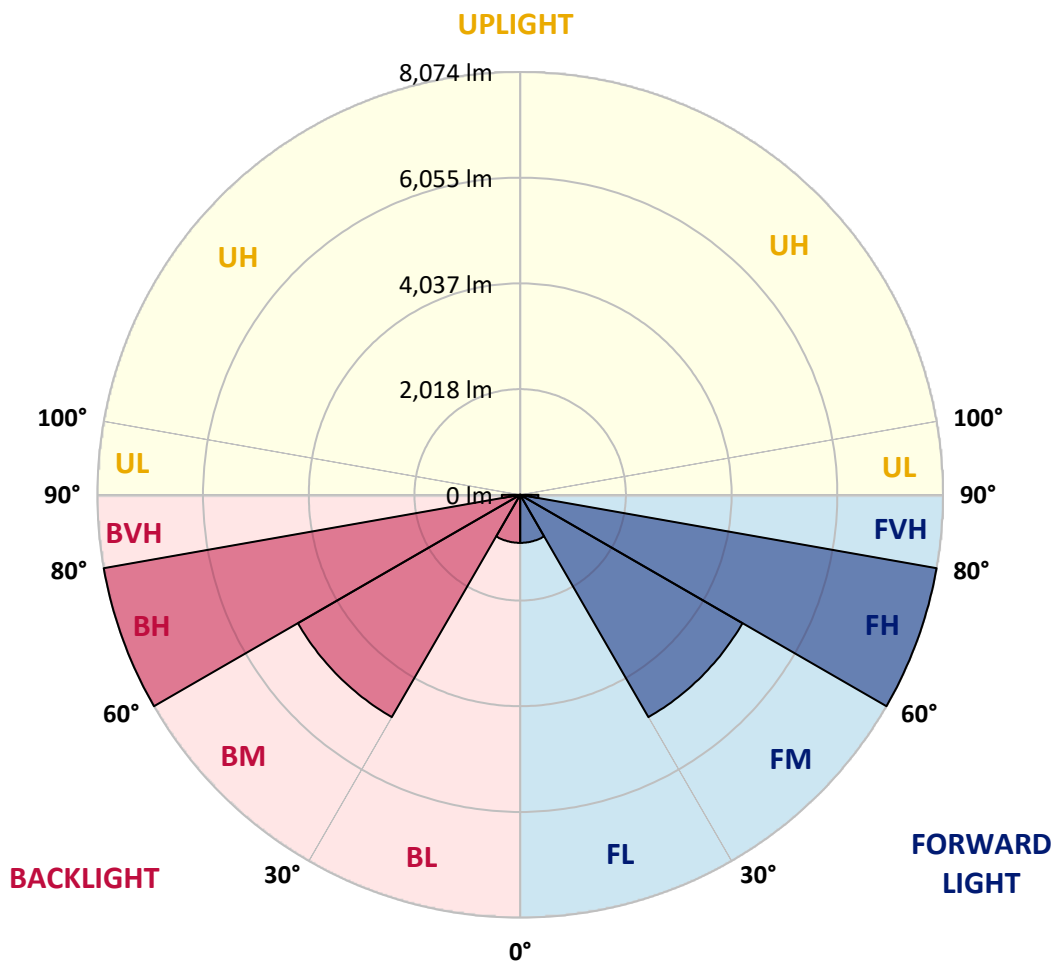
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	917.1	3.2			
FM	(30°-60°)	4901.5	17.2			
FH	(60°-80°)	8073.5	28.3			G4/12000
FVH	(80°-90°)	349.4	1.2			G3/500
BL	(0°-30°)	917.1	3.2	B2/1000		
BM	(30°-60°)	4901.5	17.2	B3/5000		
BH	(60°-80°)	8073.5	28.3	B5		G4/12000
BVH	(80°-90°)	349.4	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





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2024.9	2024.9	2024.9	2024.9	2024.9	2024.9	2024.9	2024.9	2024.9	2024.9	2024.9
2.5°	2040.7	2040.7	2042.4	2040.7	2037.2	2035.5	2030.1	2026.7	2023.2	2021.5	2017.9
5°	2042.4	2042.4	2044.3	2042.4	2038.9	2035.5	2032.0	2026.7	2023.2	2019.7	2017.9
7.5°	2049.5	2051.2	2053.0	2051.2	2044.3	2040.7	2035.5	2030.1	2023.2	2019.7	2016.1
10°	2063.5	2063.5	2063.5	2061.8	2056.4	2049.5	2042.4	2037.2	2028.4	2019.7	2014.4
12.5°	2074.0	2075.8	2075.8	2072.3	2065.2	2056.4	2049.5	2044.3	2037.2	2030.1	2024.9
15°	2089.8	2089.8	2088.0	2081.0	2070.6	2063.5	2060.0	2058.3	2056.4	2053.0	2047.7
17.5°	2121.4	2119.6	2114.3	2103.8	2091.5	2086.3	2082.8	2082.8	2082.8	2081.0	2077.5
20°	2166.9	2166.9	2160.0	2142.4	2131.8	2126.6	2121.4	2121.4	2121.4	2116.1	2110.9
22.5°	2240.6	2242.3	2231.8	2210.8	2196.8	2186.3	2179.2	2174.0	2168.7	2165.2	2156.4
25°	2340.5	2338.8	2326.5	2300.2	2289.7	2279.1	2265.1	2256.3	2249.4	2244.0	2233.5
27.5°	2445.7	2443.9	2429.9	2407.1	2400.1	2384.3	2373.9	2361.6	2352.8	2344.0	2333.5
30°	2580.7	2571.9	2561.4	2543.9	2540.4	2528.1	2514.1	2496.5	2482.5	2468.5	2456.2
32.5°	2701.6	2701.6	2685.9	2677.2	2684.1	2678.9	2680.6	2670.1	2661.3	2656.1	2643.8
35°	2870.0	2870.0	2862.9	2852.4	2854.2	2842.0	2840.1	2842.0	2848.9	2848.9	2834.9
37.5°	3094.3	3097.9	3075.1	3071.6	3062.8	3045.3	3036.5	3040.0	3055.8	3064.6	3045.3
40°	3373.2	3380.1	3373.2	3350.4	3339.8	3310.1	3292.5	3292.5	3304.7	3313.5	3306.5
42.5°	3648.4	3660.6	3648.4	3630.9	3622.1	3599.3	3590.6	3597.5	3613.3	3623.8	3613.3
45°	3955.2	3963.9	3948.2	3927.1	3916.6	3904.3	3899.1	3904.3	3921.9	3932.4	3928.8
47.5°	4256.7	4269.0	4249.7	4240.9	4240.9	4228.7	4242.7	4256.7	4272.6	4297.1	4286.6
50°	4551.3	4567.1	4554.8	4556.5	4570.5	4593.4	4619.6	4647.7	4675.7	4702.1	4705.6
52.5°	4814.2	4838.8	4840.5	4872.1	4915.9	4951.0	5024.6	5086.0	5152.6	5175.4	5164.9
55°	5091.2	5124.6	5168.4	5217.5	5287.6	5359.4	5483.9	5594.4	5682.1	5736.4	5727.7
57.5°	5487.5	5520.8	5566.4	5647.0	5752.2	5850.4	6020.5	6192.2	6325.5	6407.9	6367.6
60°	6001.1	6036.2	6095.9	6181.7	6318.5	6451.8	6684.9	6932.1	7139.0	7233.7	7160.0
62.5°	6681.4	6714.8	6753.3	6867.3	7019.8	7191.5	7484.3	7801.6	8064.6	8155.8	8052.4
65°	7651.0	7691.3	7703.5	7796.4	7945.5	8104.9	8420.5	8778.2	9078.0	9227.0	9020.2
67.5°	8743.2	8758.9	8808.0	8916.8	9069.3	9213.0	9462.0	9800.3	10087.8	10170.3	9949.3
70°	9383.0	9414.6	9500.6	9651.3	9833.6	10059.8	10331.5	10696.2	11022.3	11060.9	10780.4
72.5°	8804.5	8869.4	9021.9	9256.8	9639.1	10040.5	10508.6	11046.8	11514.9	11569.3	11118.8
75°	7061.8	7135.5	7317.8	7575.6	8027.8	8623.9	9300.7	10108.9	10810.1	10899.5	10303.5
77.5°	3764.0	3855.3	4120.0	4467.1	5112.3	5901.2	6716.5	7638.7	8234.8	8436.4	8006.8
80°	948.5	997.6	1125.6	1328.9	1765.4	2401.9	3104.9	4097.2	4837.0	5150.9	4837.0
82.5°	368.2	405.0	440.1	464.6	506.7	594.3	820.5	1337.7	1802.2	2219.5	1921.5
85°	142.0	150.8	217.4	247.2	247.2	271.7	312.1	368.2	455.8	497.9	417.3
87.5°	56.1	61.4	75.4	115.7	119.2	105.2	112.2	126.2	96.5	80.6	91.1
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°	2024.9	2024.9	2024.9	2024.9	2024.9	2024.9	2024.9	2024.9
2.5°	2016.1	2014.4	2010.9	2012.7	2010.9	2010.9	2010.9	2010.9
5°	2014.4	2014.4	2010.9	2010.9	2010.9	2012.7	2010.9	2010.9
7.5°	2012.7	2010.9	2007.4	2005.6	2005.6	2003.9	2003.9	2003.9
10°	2009.2	2005.6	2002.1	2000.4	2000.4	1996.9	1996.9	1996.9
12.5°	2017.9	2012.7	2009.2	2007.4	2007.4	2007.4	2009.2	2009.2
15°	2042.4	2032.0	2026.7	2024.9	2026.7	2030.1	2032.0	2033.7
17.5°	2068.7	2058.3	2049.5	2046.0	2047.7	2053.0	2058.3	2061.8
20°	2102.1	2093.3	2082.8	2079.2	2079.2	2086.3	2089.8	2095.1
22.5°	2149.4	2142.4	2133.7	2128.4	2124.9	2133.7	2138.9	2142.4
25°	2224.8	2217.8	2210.8	2205.5	2203.7	2212.5	2216.0	2217.8
27.5°	2324.8	2317.7	2314.2	2312.5	2307.2	2310.7	2316.0	2314.2
30°	2454.5	2459.7	2454.5	2454.5	2445.7	2449.3	2445.7	2442.2
32.5°	2628.1	2622.7	2607.0	2596.5	2584.2	2584.2	2579.0	2573.6
35°	2801.6	2784.1	2775.3	2780.6	2775.3	2778.8	2770.0	2761.3
37.5°	3006.8	2996.2	2994.5	3010.2	3006.8	3010.2	3010.2	2998.0
40°	3278.5	3271.4	3283.7	3310.1	3320.5	3318.8	3322.3	3306.5
42.5°	3590.6	3578.3	3583.5	3606.3	3618.6	3622.1	3620.3	3606.3
45°	3902.6	3906.1	3906.1	3930.7	3943.0	3949.9	3937.6	3932.4
47.5°	4255.0	4260.3	4248.0	4263.8	4267.2	4279.5	4269.0	4260.3
50°	4661.7	4642.5	4614.4	4619.6	4619.6	4616.2	4603.9	4593.4
52.5°	5115.8	5072.0	5019.4	5001.8	4982.6	4963.3	4938.7	4919.5
55°	5633.0	5557.6	5463.0	5419.1	5382.3	5338.5	5282.3	5263.1
57.5°	6232.5	6102.8	5976.6	5897.7	5803.1	5745.2	5673.3	5669.8
60°	6944.4	6769.1	6546.4	6428.9	6334.2	6265.9	6211.6	6190.5
62.5°	7766.7	7465.1	7224.9	7098.7	6988.2	6946.1	6877.7	6886.5
65°	8609.9	8303.1	8070.0	7968.3	7864.8	7836.7	7773.6	7796.4
67.5°	9523.3	9270.9	9014.9	8920.2	8825.5	8797.5	8732.6	8752.0
70°	10342.0	10021.2	9730.2	9544.3	9383.0	9253.3	9171.0	9137.6
72.5°	10505.1	9949.3	9491.8	9027.1	8758.9	8523.9	8427.6	8390.8
75°	9439.2	8576.6	7924.4	7379.2	7077.6	6735.7	6698.9	6648.1
77.5°	7342.3	6360.6	5571.6	4870.4	4465.4	4048.1	3904.3	3795.7
80°	4379.5	3366.1	2608.7	1828.5	1492.0	1200.9	1129.0	1053.6
82.5°	1567.4	1004.5	676.7	527.7	471.6	434.8	406.7	369.9
85°	378.7	319.1	301.6	273.5	270.0	229.7	163.1	145.5
87.5°	121.0	110.5	112.2	106.9	112.2	84.2	68.3	61.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)