

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: P196906

Luminaire Tested: **NAV-AF-04-D-UNV-5NQ-8030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196906
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-8030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V NARROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16535 lumens
Efficiency: N/A
Efficacy: 96.7 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

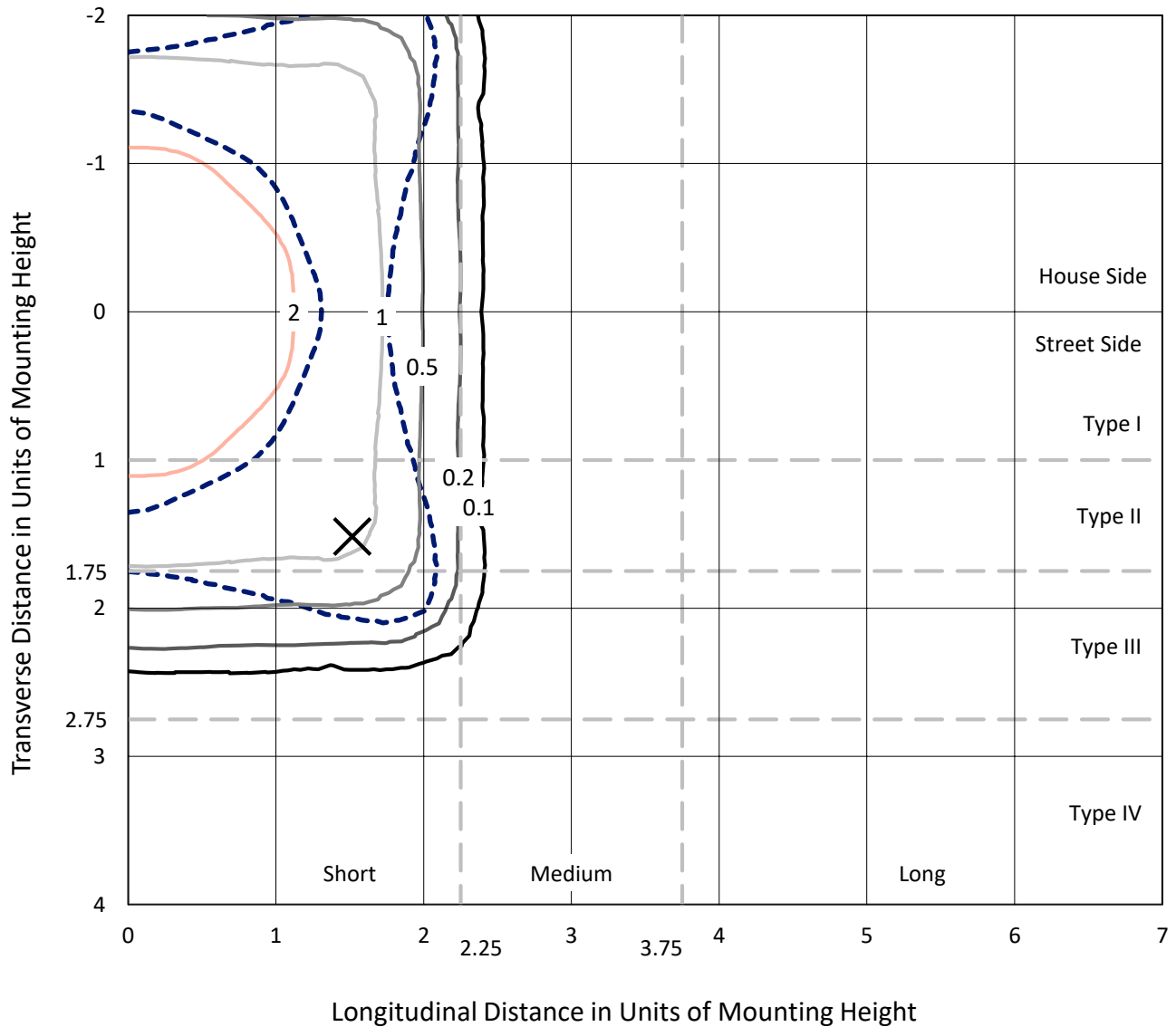
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

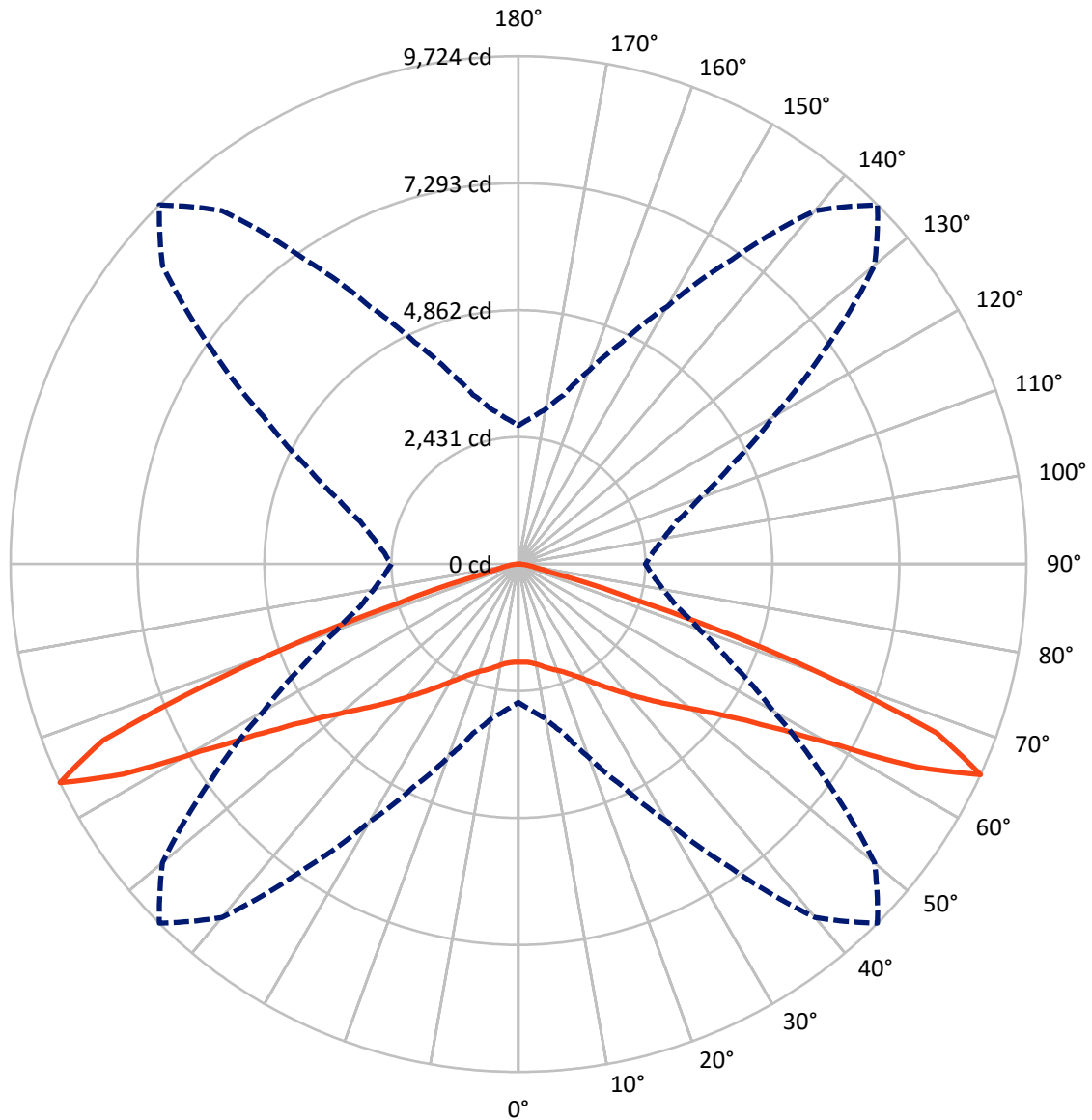
× Max cd
 - - - 1/2 Max cd



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	8267.5	0.0	8267.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	8267.5	0.0	8267.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	16535.0	0.0	16535.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	183.2	1.1
10°-20°	587.0	3.6
20°-30°	1095.1	6.6
30°-40°	1846.5	11.2
40°-50°	2999.2	18.1
50°-60°	4699.3	28.4
60°-70°	4435.9	26.8
70°-80°	597.8	3.6
80°-90°	91.1	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°	16535.0	100.0
0°-180°	16535.0	100.0

Coefficient of Utilization



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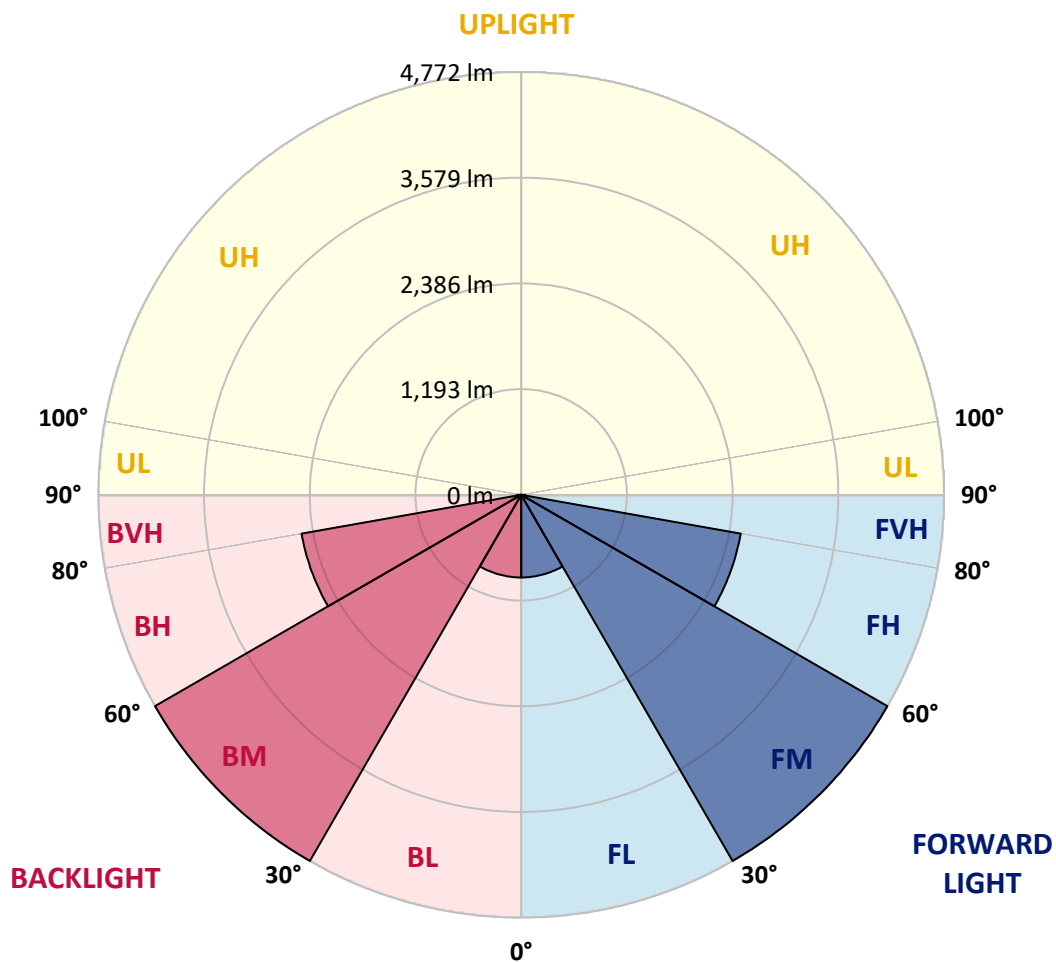
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	932.6	5.6			
FM	(30°-60°)	4772.5	28.9			
FH	(60°-80°)	2516.8	15.2			G2/5000
FVH	(80°-90°)	45.5	0.3			G1/100
BL	(0°-30°)	932.6	5.6	B2/1000		
BM	(30°-60°)	4772.5	28.9	B3/5000		
BH	(60°-80°)	2516.8	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°	1880.8	1880.8	1880.8	1880.8	1880.8	1880.8	1880.8	1880.8	1880.8	1880.8	1880.8
2.5°	1896.3	1896.3	1899.4	1898.3	1894.2	1891.1	1888.0	1883.9	1881.9	1879.8	1878.8
5°	1906.6	1906.6	1909.7	1908.6	1905.6	1901.4	1899.4	1896.3	1893.2	1891.1	1892.2
7.5°	1932.3	1933.4	1934.4	1933.4	1930.3	1927.2	1923.1	1922.0	1917.9	1914.8	1916.9
10°	1971.5	1971.5	1972.5	1973.5	1971.5	1964.3	1964.3	1962.2	1958.1	1954.0	1955.0
12.5°	2014.7	2014.7	2015.8	2015.8	2015.8	2011.7	2012.7	2011.7	2006.5	2004.4	2006.5
15°	2057.0	2058.0	2058.0	2060.1	2060.1	2061.1	2065.2	2065.2	2063.2	2062.1	2062.1
17.5°	2106.4	2108.5	2109.5	2112.6	2113.6	2115.7	2119.8	2120.8	2121.9	2118.8	2119.8
20°	2172.3	2173.4	2176.5	2177.5	2181.6	2181.6	2183.7	2182.6	2180.6	2176.5	2176.5
22.5°	2246.5	2248.6	2254.7	2254.7	2259.9	2256.8	2257.8	2254.7	2249.6	2247.5	2245.5
25°	2343.3	2346.4	2351.6	2349.5	2351.6	2346.4	2346.4	2346.4	2343.3	2340.2	2339.2
27.5°	2465.9	2460.7	2465.9	2461.8	2460.7	2456.6	2457.7	2455.6	2452.5	2451.5	2447.4
30°	2593.6	2587.4	2590.5	2591.6	2589.5	2588.5	2584.3	2581.3	2576.1	2577.1	2574.0
32.5°	2739.9	2733.7	2736.8	2737.8	2735.8	2737.8	2736.8	2729.6	2723.4	2727.5	2727.5
35°	2914.0	2909.8	2918.1	2921.2	2915.0	2911.9	2907.8	2899.5	2890.3	2896.4	2897.5
37.5°	3123.1	3117.9	3124.1	3132.3	3121.0	3114.8	3098.3	3086.0	3079.8	3082.9	3087.0
40°	3340.4	3341.4	3358.9	3361.0	3348.6	3341.4	3324.9	3306.4	3288.9	3288.9	3294.0
42.5°	3569.1	3572.1	3592.7	3600.0	3595.8	3582.4	3559.8	3537.1	3514.5	3518.6	3524.8
45°	3827.6	3823.5	3845.1	3862.6	3859.5	3855.4	3833.8	3792.6	3772.0	3770.9	3781.2
47.5°	4099.5	4107.8	4130.4	4160.3	4159.3	4149.0	4121.2	4083.0	4044.9	4048.0	4060.4
50°	4416.8	4428.1	4466.2	4496.1	4500.2	4497.1	4464.2	4419.9	4366.3	4369.4	4385.9
52.5°	4701.1	4717.5	4761.8	4823.6	4861.7	4879.3	4857.6	4816.4	4761.8	4764.9	4782.4
55°	4958.6	4984.3	5050.2	5134.7	5210.9	5282.0	5313.9	5312.9	5272.7	5282.0	5304.7
57.5°	5120.3	5156.3	5256.2	5392.2	5543.6	5686.8	5810.4	5926.8	5952.5	6001.0	6001.0
60°	4902.9	4987.4	5120.3	5353.1	5650.7	5972.1	6320.3	6659.2	6877.5	7049.5	6956.8
62.5°	4094.4	4219.0	4405.4	4712.4	5175.9	5749.6	6449.0	7237.0	8059.0	8561.6	8192.9
65°	2649.2	2805.8	3008.7	3353.8	3937.8	4676.3	5695.0	7111.3	8831.5	9723.5	8899.5
67.5°	1049.6	1155.7	1279.3	1524.4	2031.2	2756.4	3899.7	5646.6	7798.4	8639.9	7716.0
70°	501.6	519.1	542.8	595.4	722.1	974.4	1566.7	2782.1	4782.4	5669.3	4668.1
72.5°	362.6	365.7	377.0	394.5	431.6	483.1	587.1	850.8	1649.1	2397.9	1651.1
75°	275.0	279.1	285.3	294.6	314.2	338.9	378.0	453.2	564.5	651.0	563.4
77.5°	209.1	213.2	218.4	227.6	237.9	255.4	269.9	299.7	347.1	365.7	363.6
80°	152.4	159.7	167.9	176.1	183.3	191.6	192.6	207.0	233.8	251.3	246.2
82.5°	96.8	103.0	124.6	133.9	134.9	137.0	136.0	137.0	151.4	163.8	159.7
85°	61.8	65.9	77.3	87.6	85.5	89.6	89.6	87.6	81.4	70.0	83.4
87.5°	30.9	31.9	37.1	46.4	44.3	39.1	38.1	38.1	27.8	23.7	25.8
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°	1880.8	1880.8	1880.8	1880.8	1880.8	1880.8	1880.8	1880.8
2.5°	1875.7	1877.7	1874.7	1874.7	1873.6	1875.7	1872.6	1872.6
5°	1890.1	1893.2	1892.2	1892.2	1894.2	1896.3	1895.3	1894.2
7.5°	1915.9	1917.9	1920.0	1921.0	1923.1	1922.0	1924.1	1923.1
10°	1955.0	1952.9	1956.0	1952.9	1954.0	1951.9	1952.9	1952.9
12.5°	2004.4	2001.4	1999.3	1997.2	1997.2	1993.1	1993.1	1994.1
15°	2061.1	2055.9	2051.8	2049.8	2047.7	2047.7	2044.6	2046.7
17.5°	2116.7	2111.6	2104.4	2104.4	2101.3	2099.2	2097.1	2102.3
20°	2175.4	2170.3	2166.2	2165.1	2158.9	2156.9	2157.9	2164.1
22.5°	2243.4	2240.3	2240.3	2238.3	2234.1	2231.0	2231.0	2238.3
25°	2335.1	2328.9	2329.9	2331.0	2328.9	2328.9	2326.8	2332.0
27.5°	2447.4	2442.2	2445.3	2447.4	2445.3	2448.4	2445.3	2449.4
30°	2579.2	2576.1	2579.2	2582.3	2577.1	2577.1	2575.1	2578.2
32.5°	2736.8	2732.7	2734.7	2734.7	2727.5	2721.3	2713.1	2719.3
35°	2909.8	2904.7	2908.8	2911.9	2903.7	2897.5	2885.1	2890.3
37.5°	3100.4	3102.5	3107.6	3121.0	3118.9	3108.6	3099.4	3103.5
40°	3313.6	3323.9	3346.6	3355.8	3353.8	3343.5	3331.1	3333.2
42.5°	3554.6	3568.0	3591.7	3607.2	3600.0	3585.5	3570.1	3576.3
45°	3817.3	3837.9	3868.8	3884.2	3875.0	3859.5	3837.9	3849.2
47.5°	4095.4	4136.6	4177.8	4198.4	4195.3	4173.7	4145.9	4149.0
50°	4428.1	4482.7	4535.2	4555.8	4540.4	4507.4	4468.3	4467.2
52.5°	4842.2	4900.9	4944.1	4939.0	4900.9	4849.4	4805.1	4803.0
55°	5359.3	5378.8	5372.6	5328.4	5261.4	5181.1	5124.4	5115.1
57.5°	5984.5	5918.6	5821.7	5687.8	5537.4	5385.0	5282.0	5243.9
60°	6748.8	6451.1	6105.0	5740.4	5407.7	5158.4	5000.8	4905.0
62.5°	7380.2	6518.0	5744.5	5111.0	4592.9	4284.9	4069.7	3936.8
65°	7163.9	5631.2	4510.5	3693.7	3128.2	2809.9	2582.3	2430.9
67.5°	5534.4	3762.7	2618.3	1814.9	1376.1	1165.0	1017.7	921.9
70°	2790.4	1443.1	874.5	617.0	527.4	490.3	465.6	451.2
72.5°	818.9	546.9	454.2	401.7	369.8	347.1	332.7	325.5
75°	453.2	369.8	326.5	296.6	276.0	260.6	251.3	245.1
77.5°	312.1	268.8	247.2	227.6	211.2	199.8	192.6	186.4
80°	218.4	196.7	187.5	177.2	164.8	155.5	145.2	141.1
82.5°	145.2	136.0	133.9	125.7	118.5	108.2	89.6	83.4
85°	85.5	84.5	84.5	81.4	76.2	67.0	53.6	53.6
87.5°	29.9	30.9	31.9	34.0	33.0	27.8	22.7	21.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)