

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: P195940

Luminaire Tested: **NAV-AF-04-D-UNV-5NQ-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195940
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-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 4000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V NARROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16904.3 lumens
Efficiency: N/A
Efficacy: 131.0 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

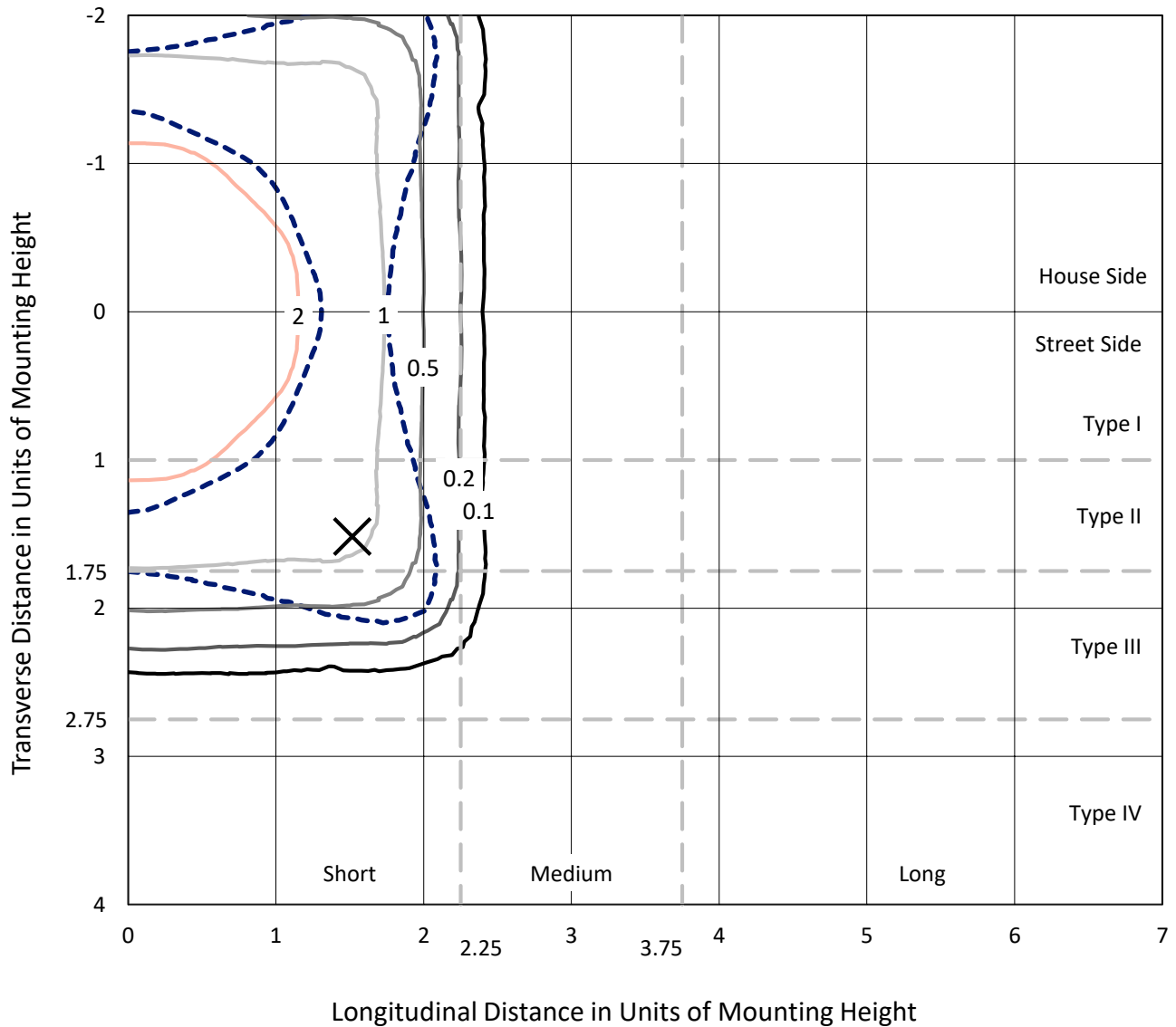
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

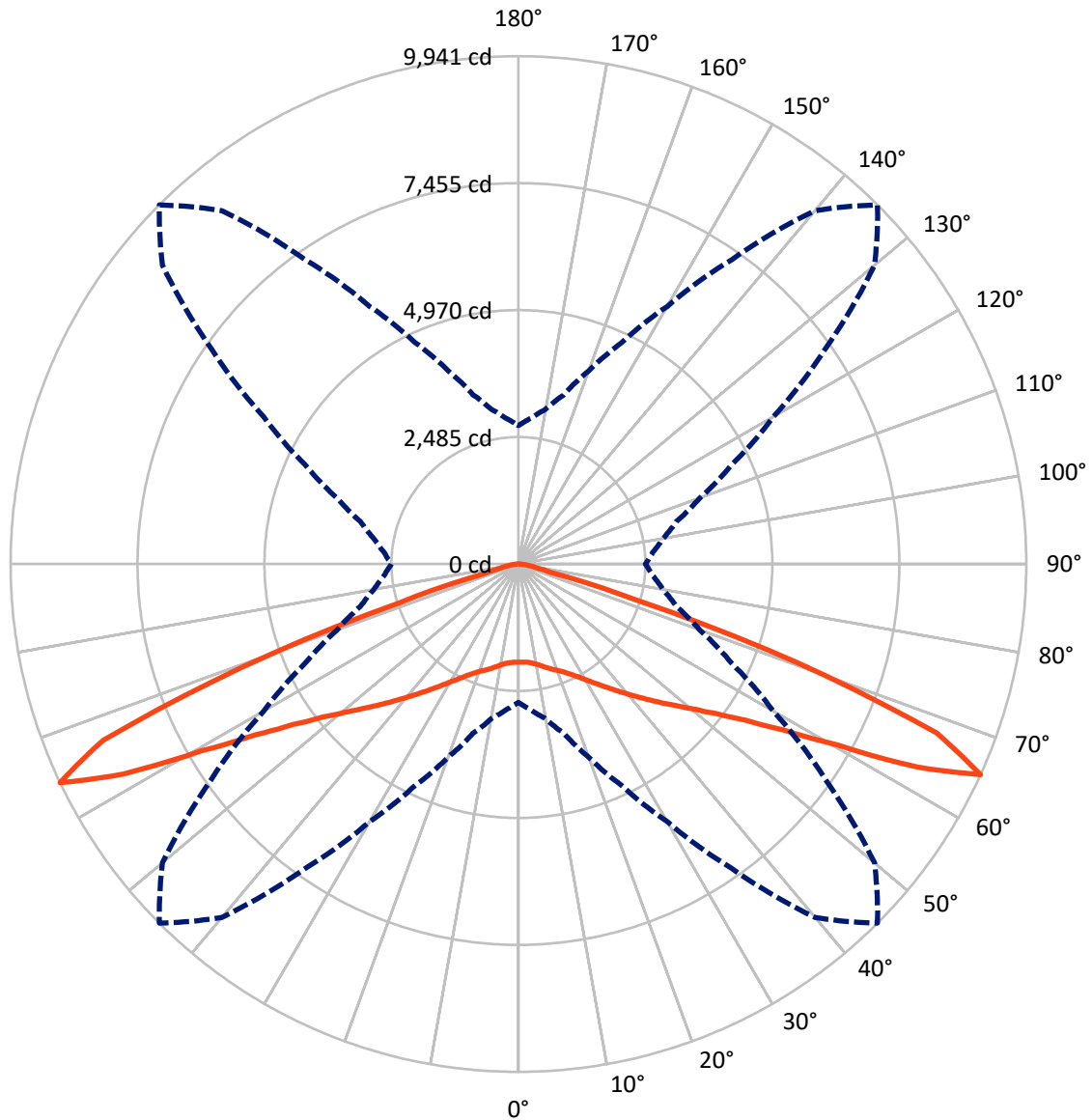
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.1 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	8452.1	0.0	8452.1
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	8452.1	0.0	8452.1
	% Fixture	50.0	0.0	50.0
Total	Lumens	16904.3	0.0	16904.3
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	187.2	1.1
10°-20°	600.1	3.6
20°-30°	1119.5	6.6
30°-40°	1887.7	11.2
40°-50°	3066.2	18.1
50°-60°	4804.2	28.4
60°-70°	4534.9	26.8
70°-80°	611.2	3.6
80°-90°	93.1	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°	16904.3	100.0
0°-180°	16904.3	100.0

Coefficient of Utilization



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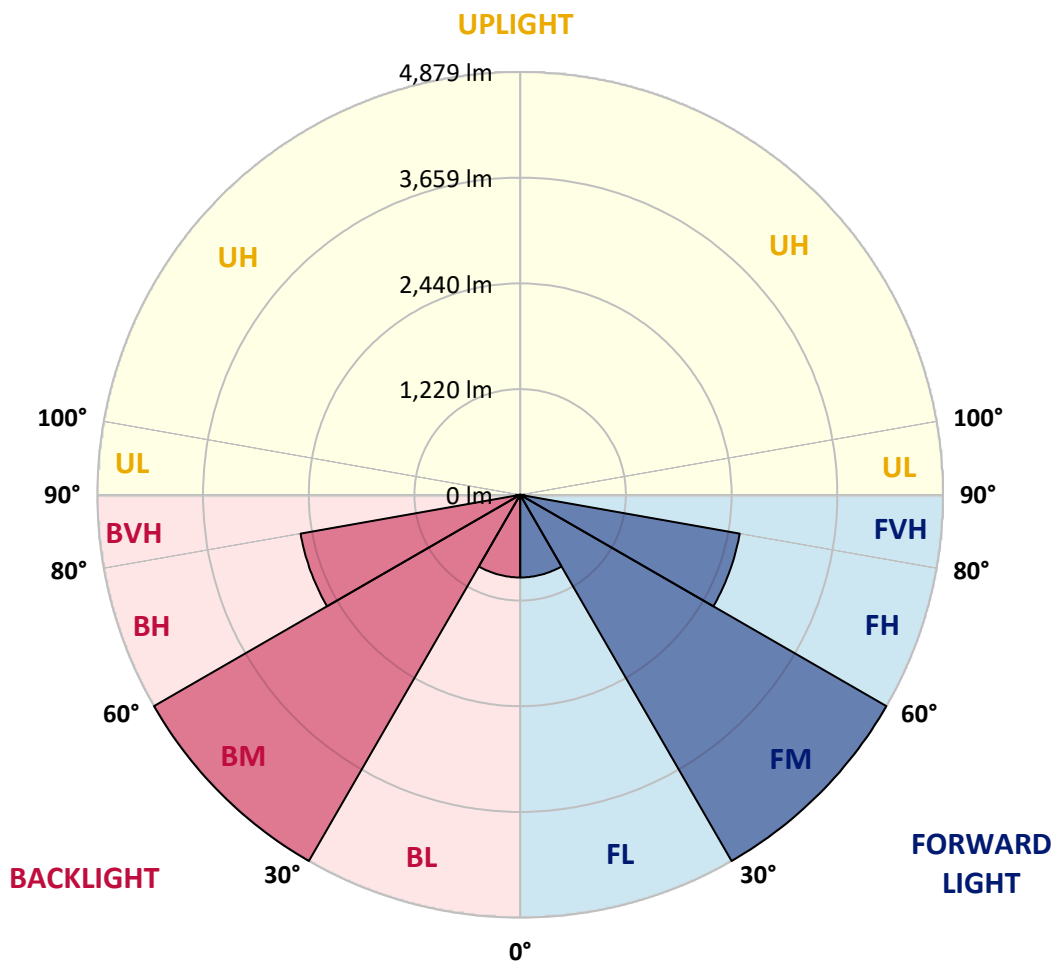
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	953.5	5.6			
FM	(30°-60°)	4879.1	28.9			
FH	(60°-80°)	2573.1	15.2			G2/5000
FVH	(80°-90°)	46.6	0.3			G1/100
BL	(0°-30°)	953.5	5.6	B2/1000		
BM	(30°-60°)	4879.1	28.9	B3/5000		
BH	(60°-80°)	2573.1	15.2	B4/5000		G2/5000
BVH	(80°-90°)	46.6	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: 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°	1922.8	1922.8	1922.8	1922.8	1922.8	1922.8	1922.8	1922.8	1922.8	1922.8	1922.8
2.5°	1938.6	1938.6	1941.8	1940.7	1936.5	1933.4	1930.2	1926.0	1923.9	1921.8	1920.7
5°	1949.1	1949.1	1952.3	1951.3	1948.1	1943.9	1941.8	1938.6	1935.5	1933.4	1934.4
7.5°	1975.5	1976.5	1977.6	1976.5	1973.4	1970.2	1966.0	1965.0	1960.8	1957.6	1959.7
10°	2015.5	2015.5	2016.5	2017.6	2015.5	2008.2	2008.2	2006.0	2001.8	1997.6	1998.6
12.5°	2059.7	2059.7	2060.8	2060.8	2060.8	2056.5	2057.7	2056.5	2051.3	2049.2	2051.3
15°	2102.9	2104.0	2104.0	2106.1	2106.1	2107.1	2111.4	2111.4	2109.2	2108.2	2108.2
17.5°	2153.4	2155.6	2156.6	2159.8	2160.8	2162.9	2167.1	2168.2	2169.3	2166.1	2167.1
20°	2220.8	2222.0	2225.0	2226.1	2230.3	2230.3	2232.4	2231.4	2229.3	2225.0	2225.0
22.5°	2296.6	2298.8	2305.1	2305.1	2310.3	2307.2	2308.3	2305.1	2299.8	2297.8	2295.6
25°	2395.6	2398.8	2404.0	2402.0	2404.0	2398.8	2398.8	2398.8	2395.6	2392.5	2391.5
27.5°	2521.0	2515.7	2521.0	2516.8	2515.7	2511.4	2512.6	2510.4	2507.3	2506.2	2502.0
30°	2651.5	2645.2	2648.4	2649.4	2647.3	2646.3	2642.1	2638.9	2633.6	2634.7	2631.5
32.5°	2801.0	2794.7	2797.9	2799.0	2796.8	2799.0	2797.9	2790.5	2784.3	2788.5	2788.5
35°	2979.0	2974.8	2983.2	2986.4	2980.1	2976.9	2972.7	2964.3	2954.8	2961.1	2962.2
37.5°	3192.8	3187.5	3193.9	3202.2	3190.7	3184.3	3167.6	3154.9	3148.5	3151.7	3155.9
40°	3415.0	3416.0	3433.9	3436.1	3423.4	3416.0	3399.2	3380.2	3362.3	3362.3	3367.6
42.5°	3648.8	3651.9	3673.0	3680.4	3676.2	3662.5	3639.2	3616.1	3592.9	3597.2	3603.4
45°	3913.1	3908.9	3931.0	3948.9	3945.7	3941.5	3919.4	3877.3	3856.2	3855.2	3865.7
47.5°	4191.0	4199.5	4222.6	4253.2	4252.1	4241.7	4213.2	4174.3	4135.3	4138.4	4151.0
50°	4515.4	4527.0	4565.9	4596.5	4600.7	4597.6	4563.9	4518.6	4463.9	4466.9	4483.8
52.5°	4806.0	4822.9	4868.2	4931.3	4970.3	4988.2	4966.1	4924.0	4868.2	4871.3	4889.2
55°	5069.3	5095.6	5163.0	5249.4	5327.3	5400.0	5432.6	5431.6	5390.4	5400.0	5423.2
57.5°	5234.6	5271.5	5373.7	5512.7	5667.5	5813.8	5940.2	6059.1	6085.4	6134.9	6134.9
60°	5012.5	5098.8	5234.6	5472.6	5776.9	6105.5	6461.4	6807.8	7031.2	7207.0	7112.2
62.5°	4185.8	4313.3	4503.8	4817.6	5291.5	5878.1	6593.0	7398.6	8238.9	8752.8	8375.8
65°	2708.4	2868.5	3075.9	3428.7	4025.7	4780.8	5822.2	7270.1	9028.7	9940.6	9098.2
67.5°	1073.1	1181.5	1307.8	1558.5	2076.6	2817.9	3986.7	5772.7	7972.5	8832.9	7888.3
70°	512.8	530.7	555.0	608.7	738.2	996.1	1601.6	2844.2	4889.2	5795.9	4772.4
72.5°	370.7	373.8	385.4	403.3	441.2	493.9	600.3	869.8	1685.9	2451.5	1688.0
75°	281.2	285.4	291.6	301.2	321.2	346.5	386.5	463.3	577.0	665.5	576.0
77.5°	213.8	218.0	223.2	232.7	243.3	261.2	275.9	306.5	354.9	373.8	371.7
80°	155.9	163.3	171.7	180.0	187.4	195.9	196.9	211.6	239.1	257.0	251.6
82.5°	99.0	105.3	127.5	136.9	138.0	140.0	139.0	140.0	154.8	167.5	163.3
85°	63.2	67.4	79.0	89.5	87.4	91.7	91.7	89.5	83.2	71.6	85.3
87.5°	31.6	32.6	38.0	47.4	45.3	40.0	39.0	39.0	28.4	24.2	26.3
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°	1922.8	1922.8	1922.8	1922.8	1922.8	1922.8	1922.8	1922.8
2.5°	1917.6	1919.7	1916.5	1916.5	1915.5	1917.6	1914.5	1914.5
5°	1932.4	1935.5	1934.4	1934.4	1936.5	1938.6	1937.6	1936.5
7.5°	1958.6	1960.8	1962.8	1963.9	1966.0	1965.0	1967.0	1966.0
10°	1998.6	1996.6	1999.7	1996.6	1997.6	1995.5	1996.6	1996.6
12.5°	2049.2	2046.0	2044.0	2041.8	2041.8	2037.6	2037.6	2038.6
15°	2107.1	2101.9	2097.7	2095.5	2093.5	2093.5	2090.3	2092.3
17.5°	2164.0	2158.7	2151.4	2151.4	2148.2	2146.0	2144.0	2149.2
20°	2224.0	2218.8	2214.5	2213.5	2207.1	2205.1	2206.1	2212.4
22.5°	2293.6	2290.4	2290.4	2288.2	2284.0	2280.9	2280.9	2288.2
25°	2387.3	2380.9	2381.9	2383.1	2380.9	2380.9	2378.8	2384.1
27.5°	2502.0	2496.7	2499.9	2502.0	2499.9	2503.1	2499.9	2504.1
30°	2636.8	2633.6	2636.8	2639.9	2634.7	2634.7	2632.6	2635.7
32.5°	2797.9	2793.7	2795.8	2795.8	2788.5	2782.1	2773.7	2780.0
35°	2974.8	2969.5	2973.7	2976.9	2968.5	2962.2	2949.6	2954.8
37.5°	3169.6	3171.8	3177.0	3190.7	3188.5	3178.1	3168.6	3172.8
40°	3387.6	3398.1	3421.3	3430.8	3428.7	3418.2	3405.5	3407.7
42.5°	3634.0	3647.7	3671.9	3687.7	3680.4	3665.6	3649.8	3656.1
45°	3902.6	3923.6	3955.2	3971.0	3961.5	3945.7	3923.6	3935.2
47.5°	4186.8	4229.0	4271.1	4292.2	4289.0	4266.9	4238.5	4241.7
50°	4527.0	4582.8	4636.5	4657.6	4641.7	4608.1	4568.1	4567.0
52.5°	4950.3	5010.3	5054.6	5049.3	5010.3	4957.7	4912.4	4910.3
55°	5478.9	5499.0	5492.6	5447.3	5378.9	5296.7	5238.8	5229.3
57.5°	6118.2	6050.8	5951.7	5814.9	5661.1	5505.2	5400.0	5361.0
60°	6899.5	6595.2	6241.3	5868.6	5528.4	5273.6	5112.5	5014.5
62.5°	7545.0	6663.6	5872.8	5225.1	4695.4	4380.6	4160.5	4024.7
65°	7323.8	5757.0	4611.3	3776.2	3198.1	2872.7	2639.9	2485.2
67.5°	5657.9	3846.7	2676.9	1855.4	1406.9	1191.0	1040.4	942.4
70°	2852.7	1475.3	894.1	630.8	539.2	501.2	476.0	461.2
72.5°	837.2	559.1	464.4	410.7	378.1	354.9	340.1	332.8
75°	463.3	378.1	333.8	303.3	282.2	266.4	257.0	250.6
77.5°	319.1	274.9	252.8	232.7	215.8	204.3	196.9	190.6
80°	223.2	201.1	191.7	181.2	168.5	159.0	148.4	144.2
82.5°	148.4	139.0	136.9	128.5	121.1	110.6	91.7	85.3
85°	87.4	86.3	86.3	83.2	77.9	68.4	54.7	54.7
87.5°	30.6	31.6	32.6	34.8	33.7	28.4	23.1	22.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)