

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: P195951

Luminaire Tested: **NAV-AF-03-D-UNV-5NQ**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195951
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-03-D-UNV-5NQ
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 4000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V
NARROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19048.4 lumens
Efficiency: N/A
Efficacy: 114.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B4 - U0 - G2

Input Watts (W): 166
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

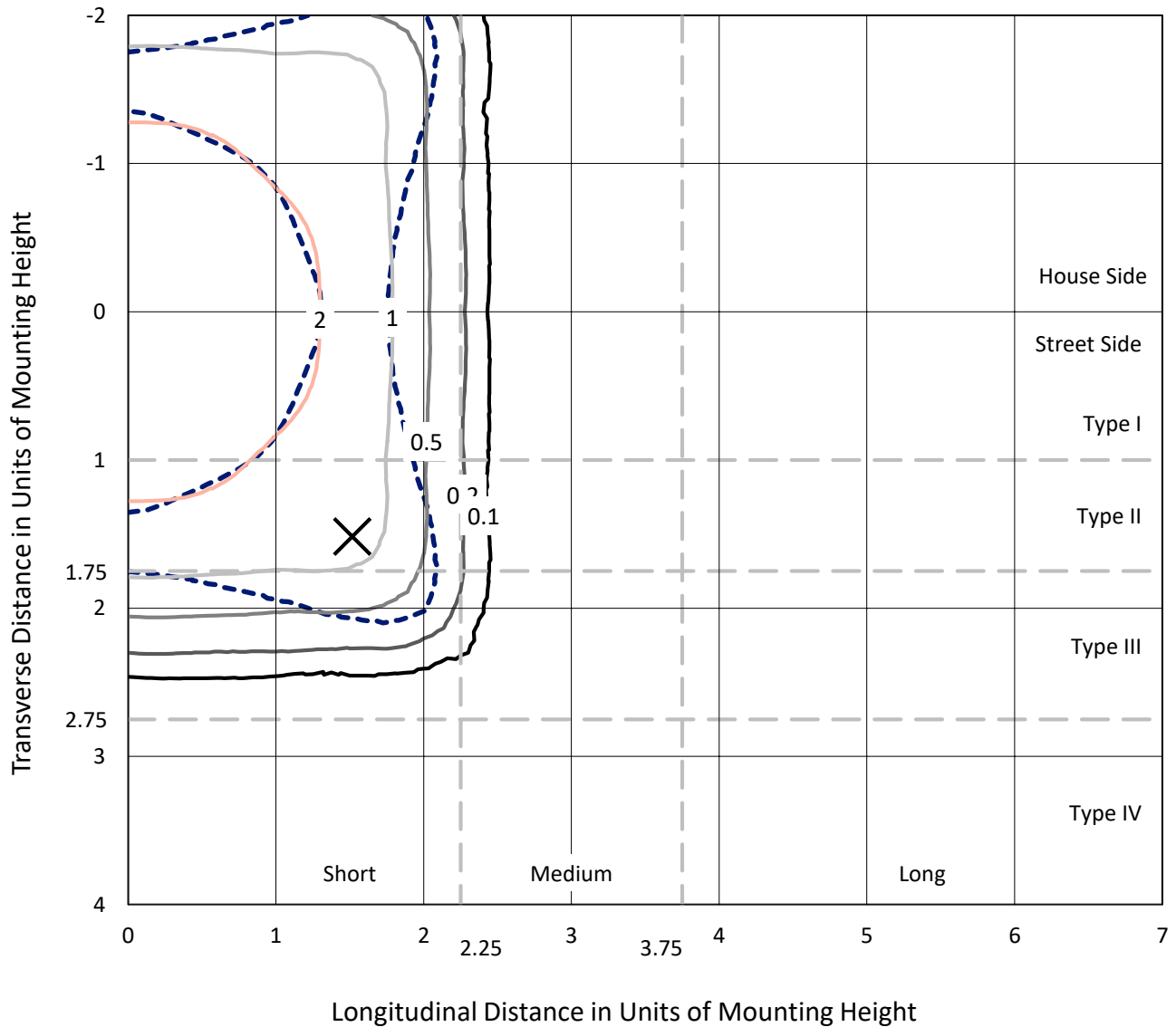


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

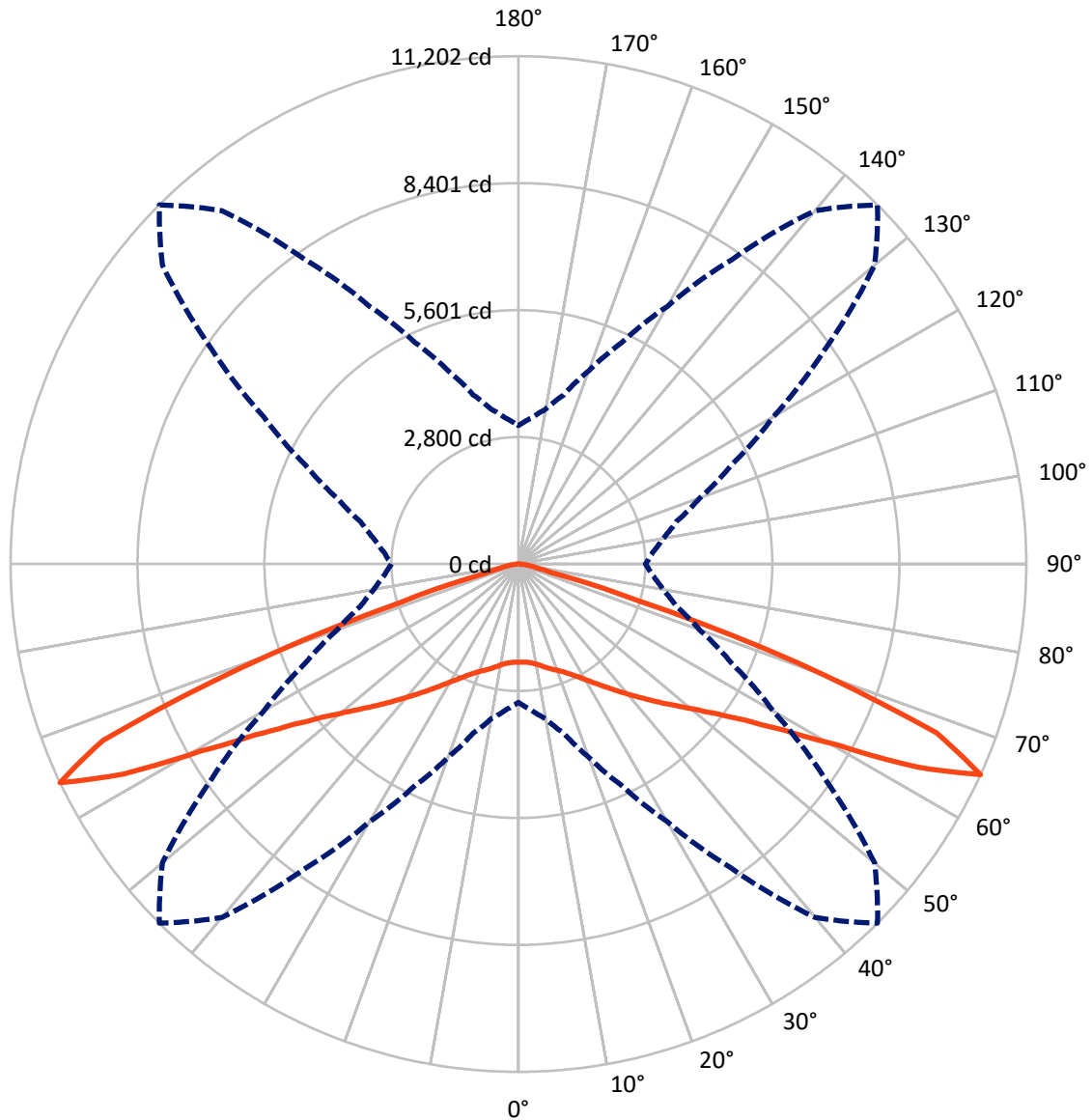


Based on 25 foot mounting height. Maximum calculated value = 3.5 fc
 Type V - Short - Full Cutoff

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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	9524.2	0.0	9524.2
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	9524.2	0.0	9524.2
	% Fixture	50.0	0.0	50.0
Total	Lumens	19048.4	0.0	19048.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	211.0	1.1
10°-20°	676.3	3.6
20°-30°	1261.5	6.6
30°-40°	2127.1	11.2
40°-50°	3455.1	18.1
50°-60°	5413.6	28.4
60°-70°	5110.2	26.8
70°-80°	688.7	3.6
80°-90°	104.9	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°	19048.4	100.0
0°-180°	19048.4	100.0



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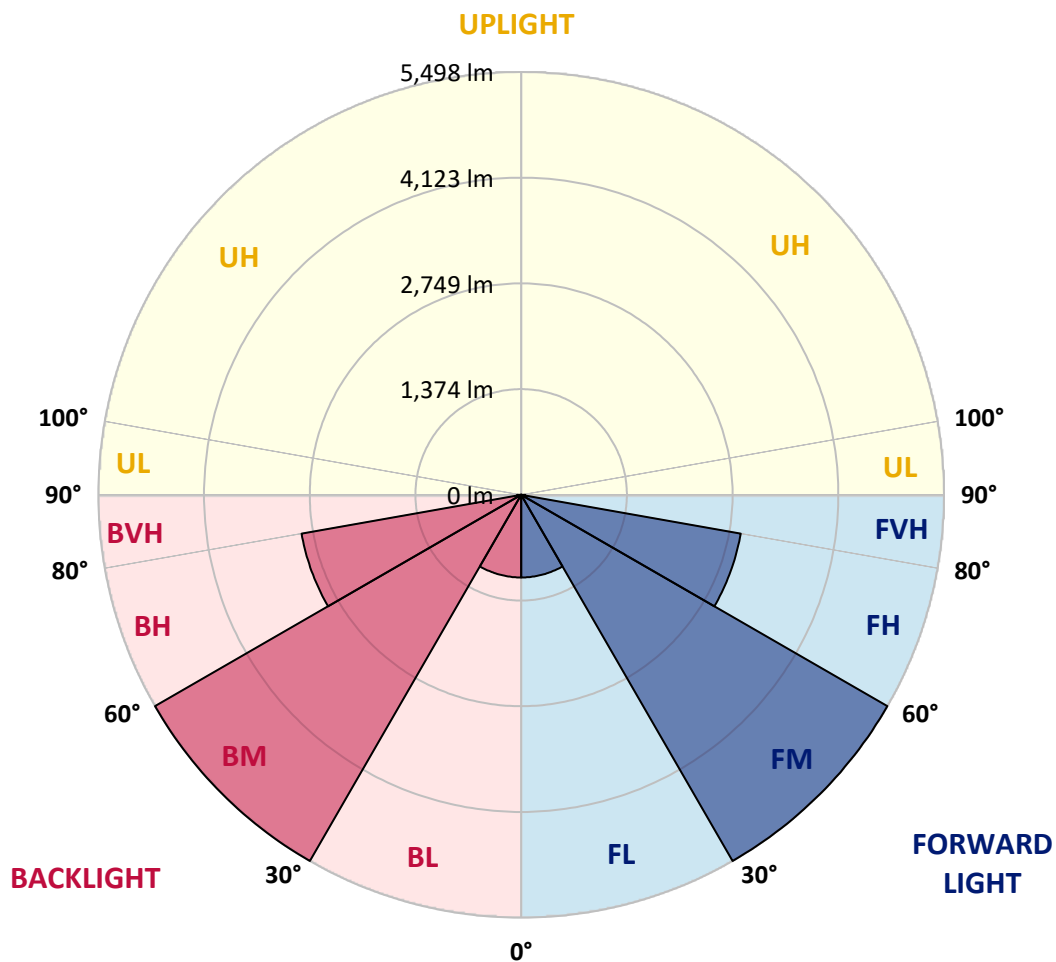
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1074.4	5.6			
FM	(30°-60°)	5497.9	28.9			
FH	(60°-80°)	2899.4	15.2			G2/5000
FVH	(80°-90°)	52.5	0.3			G1/100
BL	(0°-30°)	1074.4	5.6	B3/2500		
BM	(30°-60°)	5497.9	28.9	B4/8500		
BH	(60°-80°)	2899.4	15.2	B4/5000		G2/5000
BVH	(80°-90°)	52.5	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°	2166.7	2166.7	2166.7	2166.7	2166.7	2166.7	2166.7	2166.7	2166.7	2166.7	2166.7
2.5°	2184.5	2184.5	2188.1	2186.9	2182.2	2178.6	2175.0	2170.3	2167.9	2165.6	2164.4
5°	2196.4	2196.4	2200.0	2198.7	2195.3	2190.4	2188.1	2184.5	2180.9	2178.6	2179.8
7.5°	2226.0	2227.3	2228.4	2227.3	2223.7	2220.1	2215.4	2214.2	2209.5	2205.9	2208.2
10°	2271.2	2271.2	2272.4	2273.5	2271.2	2262.9	2262.9	2260.5	2255.7	2251.0	2252.1
12.5°	2321.0	2321.0	2322.2	2322.2	2322.2	2317.4	2318.6	2317.4	2311.5	2309.1	2311.5
15°	2369.7	2370.8	2370.8	2373.2	2373.2	2374.4	2379.2	2379.2	2376.7	2375.6	2375.6
17.5°	2426.6	2429.0	2430.1	2433.7	2434.9	2437.3	2442.0	2443.2	2444.4	2440.9	2442.0
20°	2502.5	2503.7	2507.3	2508.5	2513.2	2513.2	2515.5	2514.4	2512.1	2507.3	2507.3
22.5°	2588.0	2590.3	2597.5	2597.5	2603.4	2599.8	2601.1	2597.5	2591.5	2589.2	2586.7
25°	2699.5	2703.0	2709.0	2706.6	2709.0	2703.0	2703.0	2703.0	2699.5	2696.0	2694.8
27.5°	2840.7	2834.8	2840.7	2835.9	2834.8	2830.0	2831.2	2828.9	2825.3	2824.1	2819.4
30°	2987.8	2980.8	2984.3	2985.5	2983.1	2981.9	2977.2	2973.6	2967.7	2968.9	2965.3
32.5°	3156.3	3149.3	3152.8	3154.0	3151.6	3154.0	3152.8	3144.4	3137.4	3142.1	3142.1
35°	3356.9	3352.1	3361.6	3365.2	3358.0	3354.6	3349.8	3340.2	3329.6	3336.8	3337.9
37.5°	3597.7	3591.8	3598.9	3608.5	3595.4	3588.3	3569.3	3555.1	3547.9	3551.5	3556.2
40°	3848.1	3849.4	3869.5	3871.9	3857.6	3849.4	3830.3	3809.0	3788.8	3788.8	3794.7
42.5°	4111.5	4115.1	4138.9	4147.1	4142.4	4127.0	4100.9	4074.8	4048.6	4053.4	4060.5
45°	4409.4	4404.6	4429.6	4449.7	4446.2	4441.4	4416.5	4369.0	4345.3	4344.2	4356.0
47.5°	4722.7	4732.2	4758.3	4792.6	4791.5	4779.6	4747.6	4703.6	4659.7	4663.3	4677.5
50°	5088.2	5101.1	5145.1	5179.5	5184.2	5180.7	5142.7	5091.7	5030.0	5033.5	5052.6
52.5°	5415.6	5434.6	5485.7	5556.9	5600.8	5620.9	5596.0	5548.5	5485.7	5489.2	5509.4
55°	5712.3	5741.9	5817.9	5915.2	6003.0	6084.9	6121.6	6120.5	6074.2	6084.9	6111.0
57.5°	5898.5	5940.1	6055.3	6211.9	6386.3	6551.2	6693.6	6827.7	6857.4	6913.1	6913.1
60°	5648.2	5745.5	5898.5	6166.8	6509.6	6879.9	7281.0	7671.3	7923.0	8121.1	8014.3
62.5°	4716.7	4860.3	5075.1	5428.7	5962.7	6623.6	7429.3	8337.0	9284.0	9863.0	9438.3
65°	3052.0	3232.3	3466.1	3863.6	4536.4	5387.2	6560.7	8192.3	10173.9	11201.5	10252.2
67.5°	1209.1	1331.4	1473.8	1756.2	2340.0	3175.3	4492.5	6504.9	8983.8	9953.2	8888.8
70°	577.9	598.0	625.3	685.9	831.8	1122.5	1804.8	3205.0	5509.4	6531.0	5377.7
72.5°	417.7	421.3	434.3	454.5	497.2	556.5	676.4	980.1	1899.7	2762.4	1902.1
75°	316.8	321.6	328.7	339.4	361.9	390.4	435.5	522.1	650.3	749.9	649.1
77.5°	240.9	245.6	251.5	262.3	274.2	294.3	310.9	345.3	399.9	421.3	418.9
80°	175.6	183.9	193.4	203.0	211.2	220.8	221.9	238.6	269.3	289.5	283.6
82.5°	111.5	118.7	143.6	154.3	155.5	157.8	156.6	157.8	174.4	188.6	183.9
85°	71.2	75.9	89.0	100.9	98.5	103.2	103.2	100.9	93.7	80.7	96.2
87.5°	35.6	36.8	42.8	53.4	51.0	45.1	43.9	43.9	32.0	27.3	29.7
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°	2166.7	2166.7	2166.7	2166.7	2166.7	2166.7	2166.7	2166.7
2.5°	2160.8	2163.1	2159.7	2159.7	2158.4	2160.8	2157.2	2157.2
5°	2177.5	2180.9	2179.8	2179.8	2182.2	2184.5	2183.4	2182.2
7.5°	2207.1	2209.5	2211.8	2213.1	2215.4	2214.2	2216.5	2215.4
10°	2252.1	2249.8	2253.4	2249.8	2251.0	2248.7	2249.8	2249.8
12.5°	2309.1	2305.5	2303.2	2300.8	2300.8	2296.1	2296.1	2297.2
15°	2374.4	2368.4	2363.7	2361.4	2358.9	2358.9	2355.4	2357.8
17.5°	2438.5	2432.6	2424.2	2424.2	2420.7	2418.3	2415.9	2421.8
20°	2506.1	2500.2	2495.4	2494.3	2487.1	2484.7	2486.0	2493.0
22.5°	2584.4	2580.8	2580.8	2578.4	2573.7	2570.2	2570.2	2578.4
25°	2690.1	2682.9	2684.1	2685.2	2682.9	2682.9	2680.5	2686.5
27.5°	2819.4	2813.4	2817.0	2819.4	2817.0	2820.6	2817.0	2821.7
30°	2971.3	2967.7	2971.3	2974.8	2968.9	2968.9	2966.5	2970.0
32.5°	3152.8	3148.0	3150.4	3150.4	3142.1	3135.0	3125.5	3132.6
35°	3352.1	3346.2	3351.0	3354.6	3345.0	3337.9	3323.7	3329.6
37.5°	3571.6	3574.0	3579.9	3595.4	3593.0	3581.1	3570.5	3575.2
40°	3817.2	3829.1	3855.3	3865.9	3863.6	3851.7	3837.5	3839.9
42.5°	4095.0	4110.4	4137.6	4155.4	4147.1	4130.6	4112.8	4119.8
45°	4397.6	4421.3	4456.9	4474.7	4464.0	4446.2	4421.3	4434.3
47.5°	4718.0	4765.4	4812.9	4836.6	4833.0	4808.1	4776.1	4779.6
50°	5101.1	5164.1	5224.6	5248.4	5230.6	5192.6	5147.5	5146.3
52.5°	5578.2	5645.9	5695.7	5689.8	5645.9	5586.5	5535.5	5533.1
55°	6173.9	6196.4	6189.3	6138.3	6061.2	5968.6	5903.3	5892.6
57.5°	6894.2	6818.2	6706.7	6552.4	6379.1	6203.6	6084.9	6040.9
60°	7774.6	7431.6	7033.0	6612.9	6229.7	5942.5	5761.0	5650.6
62.5°	8501.9	7508.8	6617.7	5887.9	5291.0	4936.2	4688.3	4535.2
65°	8252.8	6487.1	5196.1	4255.2	3603.7	3237.0	2974.8	2800.3
67.5°	6375.6	4334.7	3016.4	2090.8	1585.3	1342.0	1172.4	1062.0
70°	3214.5	1662.4	1007.4	710.7	607.5	564.8	536.3	519.8
72.5°	943.4	630.0	523.2	462.8	426.0	399.9	383.3	375.0
75°	522.1	426.0	376.1	341.8	318.0	300.2	289.5	282.4
77.5°	359.6	309.7	284.8	262.3	243.3	230.2	221.9	214.8
80°	251.5	226.7	215.9	204.1	189.9	179.2	167.4	162.5
82.5°	167.4	156.6	154.3	144.7	136.5	124.6	103.2	96.2
85°	98.5	97.3	97.3	93.7	87.8	77.1	61.7	61.7
87.5°	34.4	35.6	36.8	39.2	38.0	32.0	26.1	25.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)