

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: P195933

Luminaire Tested: **NAV-AF-03-D-UNV-5MQ-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195933
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-03-D-UNV-5MQ-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 4000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V
MEDIUM OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 21647.7 lumens
Efficiency: N/A
Efficacy: 113.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B5 - U0 - G3

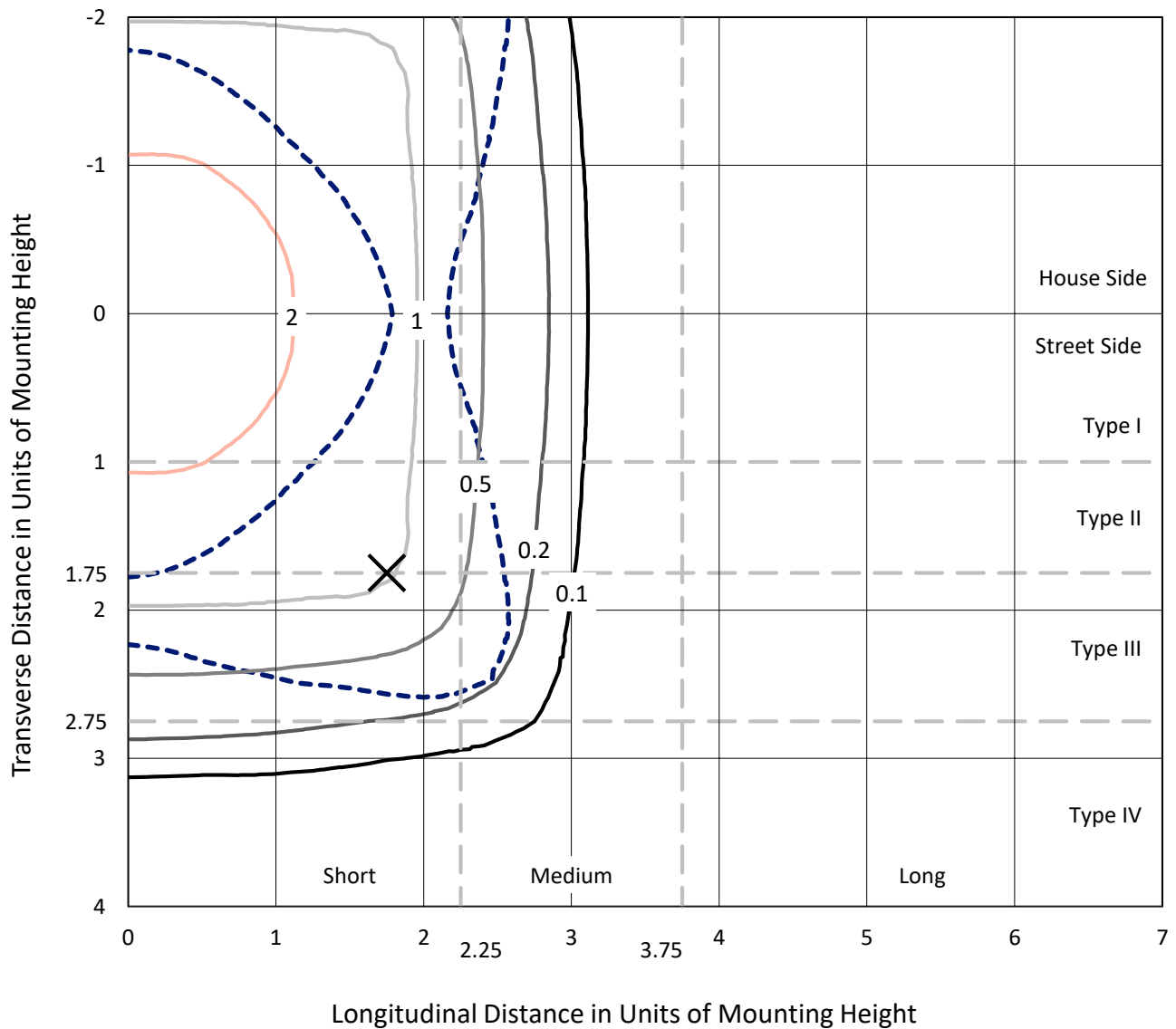
Input Watts (W): 191
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

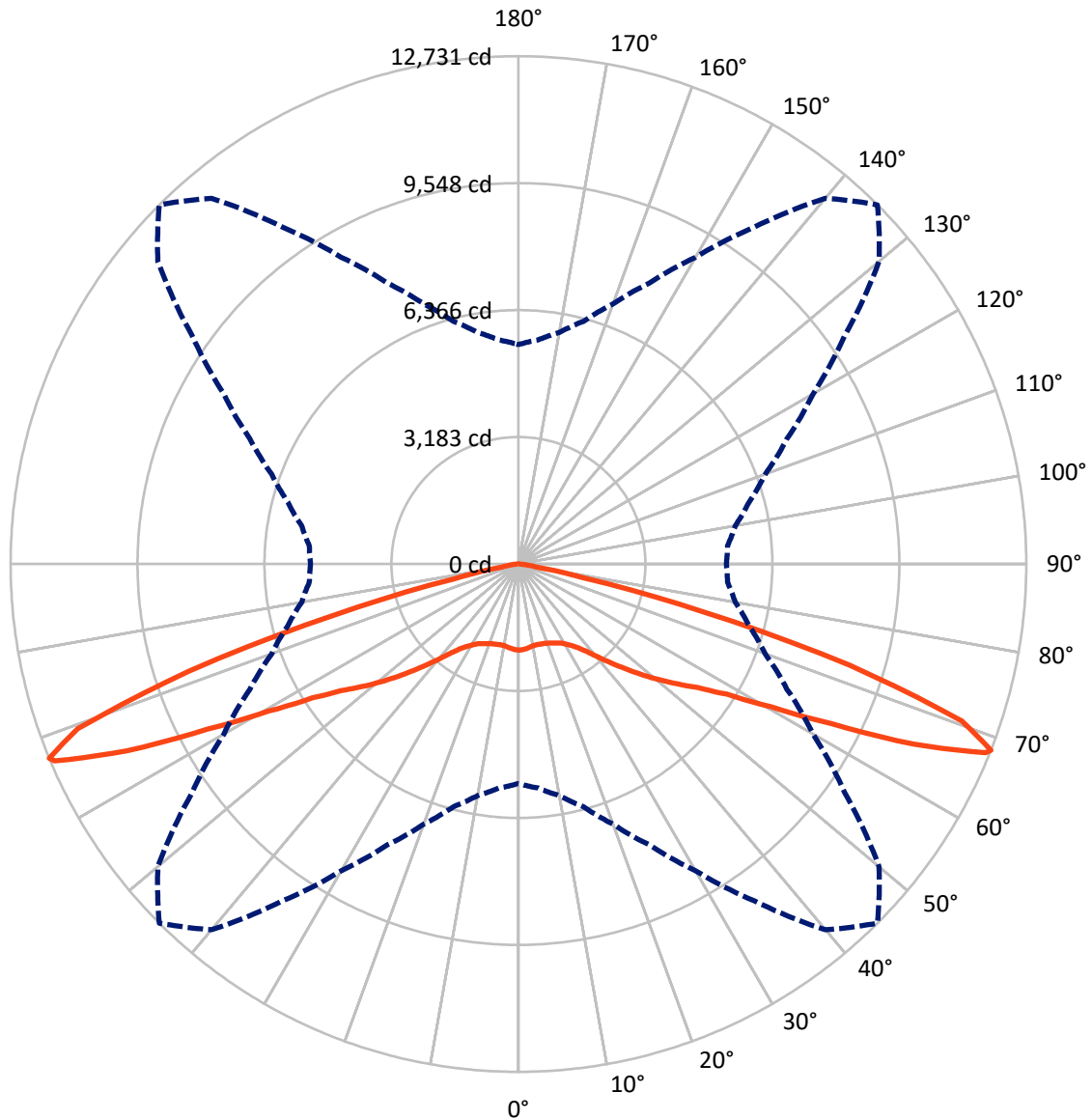
× Max cd
 - - - 1/2 Max cd



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 68-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	10823.8	0.0	10823.8
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	10823.8	0.0	10823.8
	% Fixture	50.0	0.0	50.0
Total	Lumens	21647.7	0.0	21647.7
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	202.1	0.9
10°-20°	586.0	2.7
20°-30°	996.3	4.6
30°-40°	1630.4	7.5
40°-50°	2913.8	13.5
50°-60°	4920.9	22.7
60°-70°	7630.5	35.2
70°-80°	2623.5	12.1
80°-90°	144.2	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°	21647.7	100.0
0°-180°	21647.7	100.0



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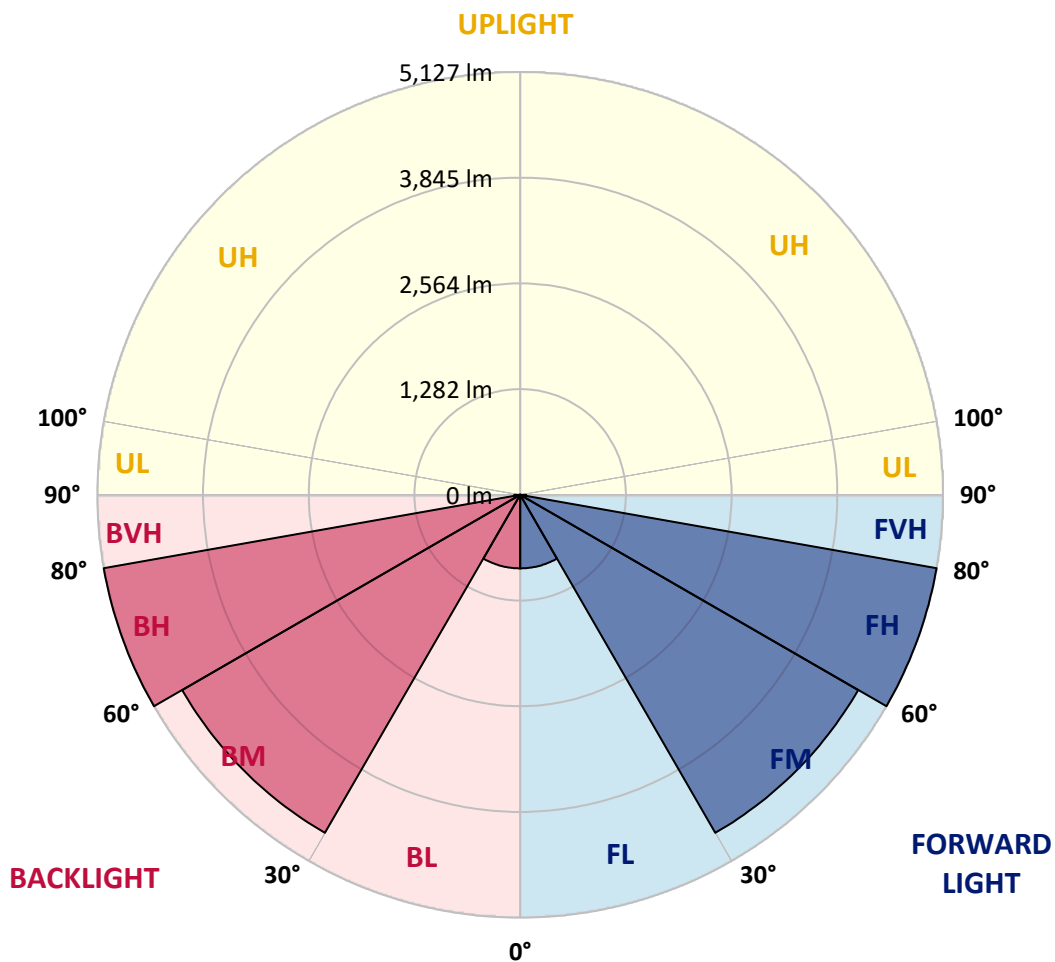
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	892.2	4.1			
FM	(30°-60°)	4732.5	21.9			
FH	(60°-80°)	5127.0	23.7			G3/7500
FVH	(80°-90°)	72.1	0.3			G1/100
BL	(0°-30°)	892.2	4.1	B2/1000		
BM	(30°-60°)	4732.5	21.9	B3/5000		
BH	(60°-80°)	5127.0	23.7	B5		G3/7500
BVH	(80°-90°)	72.1	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°	2159.4	2159.4	2159.4	2159.4	2159.4	2159.4	2159.4	2159.4	2159.4	2159.4	2159.4
2.5°	2168.7	2168.7	2171.3	2170.0	2166.1	2162.1	2158.1	2154.1	2151.5	2148.8	2146.2
5°	2146.2	2146.2	2150.1	2147.5	2144.8	2140.8	2138.2	2134.3	2131.6	2129.0	2130.3
7.5°	2117.0	2119.7	2122.3	2121.0	2115.7	2114.3	2110.3	2109.0	2106.4	2102.5	2103.7
10°	2091.8	2093.2	2095.8	2094.5	2093.2	2089.2	2087.8	2086.5	2085.2	2079.9	2078.5
12.5°	2066.7	2069.3	2071.9	2073.2	2071.9	2073.2	2074.5	2075.9	2074.5	2071.9	2071.9
15°	2046.7	2049.4	2053.4	2057.4	2058.7	2066.7	2071.9	2077.2	2081.2	2082.5	2078.5
17.5°	2036.2	2040.1	2045.4	2053.4	2060.0	2069.3	2078.5	2086.5	2093.2	2094.5	2090.5
20°	2034.9	2038.7	2046.7	2056.0	2068.0	2079.9	2094.5	2106.4	2113.0	2117.0	2113.0
22.5°	2044.1	2049.4	2060.0	2071.9	2086.5	2102.5	2121.0	2134.3	2147.5	2152.8	2148.8
25°	2070.6	2075.9	2087.8	2102.5	2118.3	2138.2	2156.8	2174.0	2187.3	2193.9	2188.6
27.5°	2126.3	2127.6	2140.8	2156.8	2175.3	2192.6	2216.4	2224.4	2234.9	2241.6	2234.9
30°	2204.5	2207.1	2219.1	2244.3	2261.5	2284.0	2297.2	2305.2	2317.2	2323.8	2315.9
32.5°	2323.8	2326.5	2337.0	2360.9	2376.8	2394.0	2410.0	2415.3	2427.2	2435.1	2425.8
35°	2492.1	2497.4	2506.7	2522.6	2535.9	2549.2	2561.1	2557.1	2565.0	2575.7	2566.4
37.5°	2722.8	2721.5	2724.1	2736.1	2749.3	2757.3	2775.9	2766.6	2774.5	2783.8	2778.4
40°	2991.9	2991.9	2990.6	3011.8	3017.1	3025.1	3044.9	3033.0	3043.6	3054.2	3044.9
42.5°	3298.1	3303.4	3310.1	3327.2	3341.9	3344.5	3353.8	3348.5	3361.7	3371.0	3361.7
45°	3650.7	3658.7	3666.7	3706.5	3713.0	3718.3	3725.0	3707.7	3722.3	3730.3	3727.6
47.5°	4016.6	4031.1	4048.4	4089.6	4116.0	4127.9	4133.2	4113.4	4114.7	4126.6	4127.9
50°	4430.2	4446.1	4463.3	4509.8	4534.9	4556.1	4562.8	4540.3	4542.8	4552.1	4554.8
52.5°	4812.0	4830.6	4867.6	4929.9	4965.7	5002.8	5005.5	4977.7	4989.6	4996.2	4991.0
55°	5171.2	5195.1	5244.2	5327.6	5392.6	5465.5	5498.7	5468.2	5468.2	5462.9	5460.2
57.5°	5590.1	5616.6	5666.9	5763.7	5853.9	5958.6	6048.8	6079.3	6134.9	6153.5	6124.3
60°	6221.1	6248.9	6300.7	6427.9	6541.9	6694.3	6842.8	6963.4	7159.6	7265.7	7170.3
62.5°	6797.7	6840.2	6962.1	7184.8	7431.3	7713.8	8041.1	8274.4	8631.0	8808.7	8568.7
65°	6666.5	6752.7	6991.3	7341.2	7850.2	8462.7	9129.5	9769.8	10506.8	10884.6	10396.8
67.5°	5823.5	5896.3	6153.5	6560.5	7195.4	8039.9	9076.4	10402.1	11922.6	12630.5	11767.4
68°	5501.3	5637.8	5893.6	6298.0	6938.3	7768.1	8875.0	10306.6	11966.3	12731.1	11799.2
70°	4218.1	4267.1	4512.3	4875.6	5566.3	6380.1	7497.6	9129.5	11005.2	11792.7	10834.2
72.5°	2004.4	2033.5	2192.6	2550.5	2989.3	3652.0	4638.3	6177.4	7867.5	8686.7	7731.0
75°	734.4	741.0	778.2	863.0	1027.3	1276.5	1749.8	2706.9	4007.3	4778.8	4023.3
77.5°	396.4	397.7	412.2	433.4	462.7	495.8	567.3	760.9	1227.5	1670.3	1296.5
80°	249.2	247.9	262.5	279.7	299.6	315.5	322.1	344.6	388.4	454.7	417.6
82.5°	127.3	139.2	172.4	190.9	220.0	225.4	218.7	217.4	230.7	249.2	257.2
85°	70.3	62.3	91.5	121.9	132.6	136.6	137.9	129.9	127.3	124.6	131.2
87.5°	35.8	33.1	39.8	61.0	65.0	53.0	54.3	46.4	31.8	31.8	33.1
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°	2159.4	2159.4	2159.4	2159.4	2159.4	2159.4	2159.4	2159.4
2.5°	2143.5	2144.8	2142.2	2142.2	2142.2	2143.5	2142.2	2140.8
5°	2126.3	2129.0	2129.0	2130.3	2131.6	2131.6	2131.6	2131.6
7.5°	2101.1	2102.5	2105.0	2105.0	2105.0	2105.0	2105.0	2105.0
10°	2077.2	2074.5	2073.2	2070.6	2070.6	2066.7	2068.0	2069.3
12.5°	2065.3	2060.0	2057.4	2053.4	2050.7	2046.7	2046.7	2048.0
15°	2070.6	2062.7	2054.7	2052.0	2049.4	2046.7	2044.1	2045.4
17.5°	2081.2	2071.9	2062.7	2057.4	2052.0	2048.0	2046.7	2048.0
20°	2103.7	2090.5	2075.9	2066.7	2056.0	2053.4	2049.4	2053.4
22.5°	2134.3	2118.3	2099.8	2082.5	2070.6	2065.3	2060.0	2064.0
25°	2171.3	2154.1	2135.5	2115.7	2102.5	2098.5	2091.8	2091.8
27.5°	2223.1	2208.4	2192.6	2174.0	2160.8	2156.8	2146.2	2146.2
30°	2305.2	2290.7	2276.1	2260.2	2246.9	2242.9	2229.7	2229.7
32.5°	2414.0	2398.0	2388.8	2375.5	2364.9	2358.3	2342.4	2341.0
35°	2559.7	2545.2	2543.9	2534.6	2523.9	2525.3	2509.4	2506.7
37.5°	2769.2	2757.3	2761.3	2753.3	2744.1	2751.9	2742.7	2742.7
40°	3036.9	3033.0	3036.9	3031.7	3033.0	3034.3	3026.4	3029.1
42.5°	3360.4	3349.9	3373.7	3371.0	3367.0	3377.7	3359.1	3345.9
45°	3733.0	3729.0	3752.8	3756.8	3748.8	3755.5	3722.3	3721.0
47.5°	4137.2	4137.2	4158.4	4155.8	4147.9	4149.2	4109.4	4084.2
50°	4558.8	4556.1	4577.3	4572.1	4561.4	4560.1	4519.0	4493.8
52.5°	4997.5	4997.5	5028.0	5013.5	4988.3	4976.3	4926.0	4892.9
55°	5482.7	5476.1	5485.4	5437.7	5388.6	5352.8	5290.5	5265.3
57.5°	6096.5	6019.6	5953.4	5892.3	5823.5	5781.0	5708.1	5681.6
60°	6967.4	6761.9	6673.1	6551.2	6437.1	6380.1	6283.4	6231.7
62.5°	8173.7	7833.0	7591.7	7322.7	7062.9	6880.0	6732.8	6667.8
65°	9568.3	8825.9	8212.1	7635.5	7146.3	6757.9	6541.9	6474.3
67.5°	10098.5	8735.8	7676.6	6849.5	6255.5	5793.0	5534.5	5480.0
68°	9985.8	8529.0	7428.8	6581.7	5985.2	5518.5	5261.3	5212.3
70°	8808.7	7195.4	6034.2	5191.1	4634.4	4190.2	4008.6	3930.5
72.5°	6005.0	4621.1	3544.7	2835.5	2419.3	2138.2	1971.2	1914.1
75°	2763.9	1867.8	1247.4	931.9	791.4	723.7	672.1	658.8
77.5°	806.0	585.9	503.7	466.6	438.7	414.9	397.7	396.4
80°	383.1	359.3	348.6	324.8	299.6	277.0	261.2	263.8
82.5°	257.2	250.5	250.5	226.7	186.9	160.4	132.6	119.3
85°	136.6	141.9	149.8	141.9	123.3	91.5	59.6	65.0
87.5°	46.4	53.0	55.6	54.3	49.0	37.1	27.8	27.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)