

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: P196381

Luminaire Tested: **NAV-AF-01-D-UNV-T4W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196381  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24127)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-01-D-UNV-T4W  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(1) 70 CRI, 4000K, 1050mA LIGHTSQUARE WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6176.6 lumens  
Efficiency: N/A  
Efficacy: 104.7 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B1 - U0 - G2

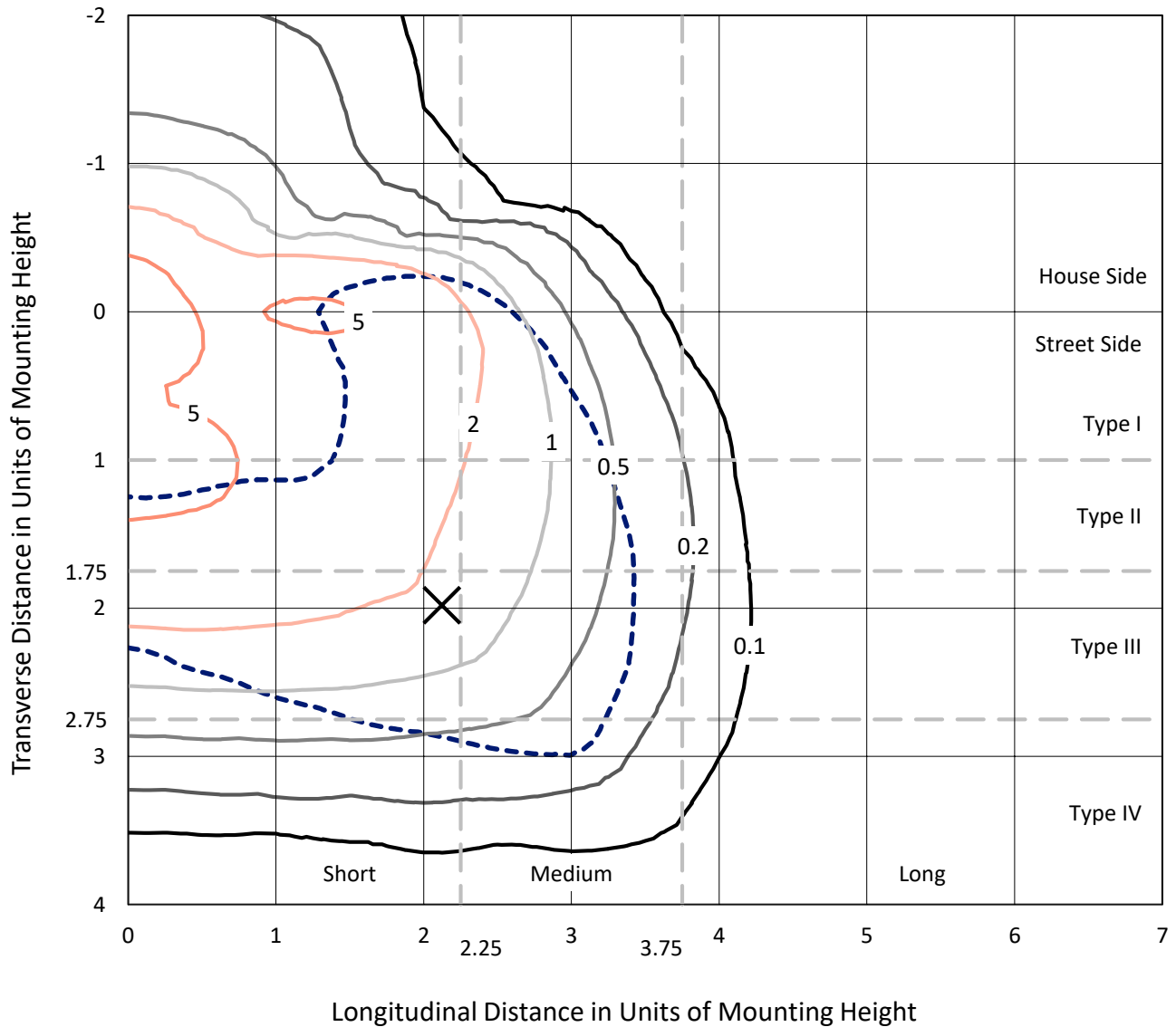
Input Watts (W): 59  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

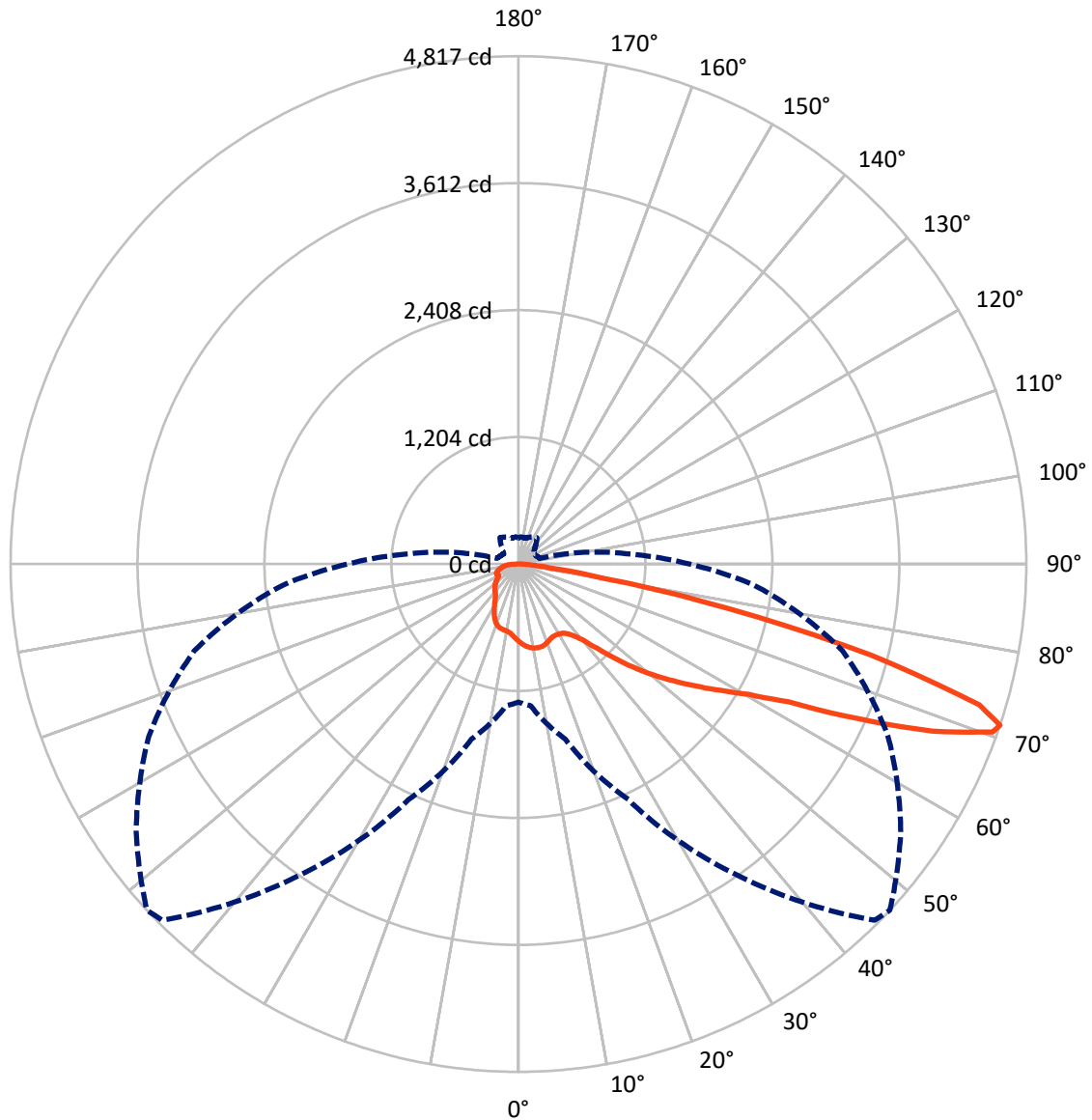
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 8.4 fc  
 Type IV - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 47-Deg Lateral    - - - Horizontal Cone Through 71-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1323.7	0.0	1323.7
	% Fixture	21.4	0.0	21.4
<b>Street Side</b>	Lumens	4852.8	0.0	4852.8
	% Fixture	78.6	0.0	78.6
<b>Total</b>	Lumens	6176.6	0.0	6176.6
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	70.1	1.1
10°-20°	205.2	3.3
20°-30°	304.9	4.9
30°-40°	437.8	7.1
40°-50°	776.1	12.6
50°-60°	1328.1	21.5
60°-70°	1885.4	30.5
70°-80°	1032.6	16.7
80°-90°	136.3	2.2
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°	6176.6	100.0
0°-180°	6176.6	100.0



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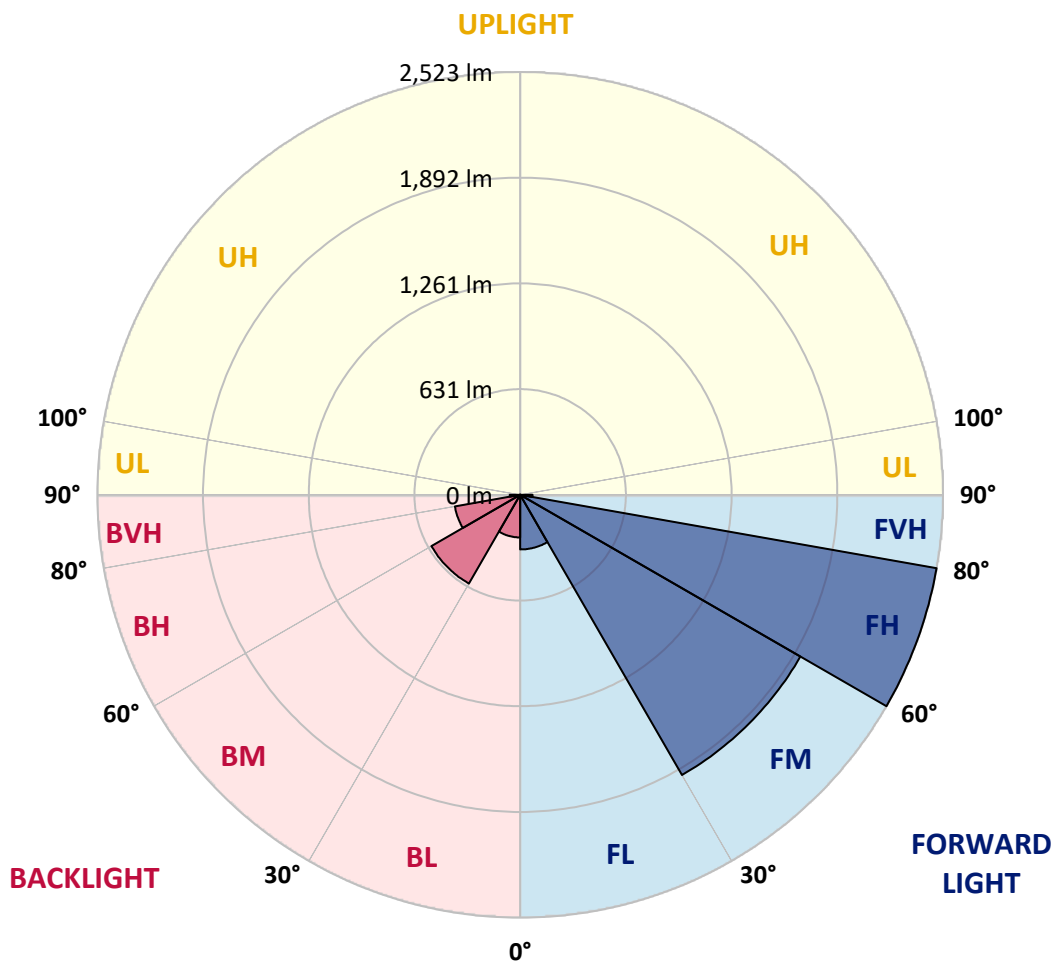
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	326.0	5.3			
FM (30°-60°)	1930.4	31.3			
FH (60°-80°)	2522.6	40.8			G2/5000
FVH (80°-90°)	73.9	1.2			G1/100
BL (0°-30°)	254.2	4.1	B1/500		
BM (30°-60°)	611.6	9.9	B1/1000		
BH (60°-80°)	395.5	6.4	B1/500		G1/500
BVH (80°-90°)	62.4	1.0			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	734.5	734.5	734.5	734.5	734.5	734.5	734.5	734.5	734.5	734.5	734.5
2.5°	779.3	777.7	778.6	775.7	769.0	761.7	761.7	754.1	746.1	738.1	729.3
5°	827.8	825.3	823.4	814.6	801.4	786.5	784.1	769.0	752.5	736.1	720.1
7.5°	868.2	865.8	859.8	843.7	824.6	802.5	799.7	779.7	758.1	735.3	712.9
10°	897.0	895.4	883.8	863.4	841.0	815.0	810.2	789.7	764.1	735.7	707.3
12.5°	913.0	910.6	896.6	872.6	846.2	819.8	815.0	795.3	766.1	734.9	701.6
15°	906.6	905.4	892.2	867.8	841.4	818.6	814.6	794.5	765.0	732.1	696.4
17.5°	879.4	882.2	871.8	847.8	826.1	810.2	805.8	787.0	758.9	725.3	688.4
20°	841.8	845.0	839.7	815.4	802.9	792.6	790.1	774.9	748.9	715.2	678.8
22.5°	801.8	804.6	805.0	782.1	778.2	774.2	772.1	761.3	740.1	709.3	672.5
25°	774.2	777.3	778.2	758.1	760.6	761.7	761.3	753.7	738.5	709.3	673.3
27.5°	766.9	768.5	767.7	749.3	753.7	760.6	760.9	759.3	744.9	717.3	684.5
30°	791.8	792.6	782.6	754.9	759.3	768.1	768.5	767.7	758.5	738.1	709.7
32.5°	899.0	898.3	863.8	792.6	777.3	780.5	781.7	788.9	789.7	772.5	746.1
35°	1062.3	1061.9	1021.9	900.2	828.6	811.7	813.3	824.6	834.5	823.0	807.7
37.5°	1242.1	1243.3	1218.8	1053.9	939.1	869.0	867.4	875.7	893.9	897.8	899.8
40°	1441.3	1447.4	1446.1	1230.4	1093.9	966.7	950.6	941.0	975.9	997.9	1026.3
42.5°	1669.1	1667.5	1668.3	1424.2	1270.8	1120.3	1090.8	1045.9	1086.4	1124.3	1186.8
45°	1864.8	1871.3	1876.1	1630.3	1469.0	1296.1	1266.1	1184.4	1220.8	1277.7	1372.9
47.5°	2061.8	2050.6	2059.4	1859.6	1689.5	1496.6	1457.8	1347.7	1381.7	1461.8	1606.6
50°	2291.2	2286.0	2245.9	2159.0	1956.1	1699.9	1649.1	1518.3	1567.9	1674.8	1895.3
52.5°	2496.9	2468.9	2437.7	2394.4	2218.3	1905.7	1841.2	1695.5	1786.8	1919.3	2253.6
55°	2572.1	2553.3	2590.9	2647.0	2495.7	2115.5	2043.3	1902.5	2033.8	2199.1	2675.0
57.5°	2652.2	2658.6	2743.5	2856.7	2758.3	2339.2	2261.1	2147.5	2304.8	2512.1	3146.1
60°	2692.2	2717.9	2887.2	3099.7	3008.1	2584.6	2509.7	2428.9	2605.4	2857.9	3616.0
62.5°	2699.1	2733.4	2973.2	3185.0	3351.9	2960.4	2874.0	2786.3	2980.8	3240.2	3956.3
65°	2574.2	2626.9	2965.6	3289.8	3665.3	3588.4	3533.6	3380.6	3483.6	3576.8	4014.4
67.5°	2207.1	2264.7	2672.3	3246.6	3916.7	4240.0	4229.7	4003.9	3871.9	3706.9	3584.0
70°	1619.9	1666.3	2057.8	2775.5	3807.0	4751.6	4770.0	4407.8	3980.3	3430.8	2665.0
71°	1310.1	1350.1	1719.2	2464.1	3593.2	4778.0	4816.5	4425.8	3867.5	3181.4	2231.2
72.5°	815.4	837.8	1141.6	1859.6	3094.1	4505.9	4570.7	4195.2	3512.0	2689.0	1577.1
75°	307.8	316.6	423.5	820.2	1846.8	3385.0	3463.5	3170.5	2467.3	1535.0	660.0
77.5°	165.3	169.7	210.1	341.1	740.1	1940.5	2041.4	1808.5	1183.6	537.2	269.8
80°	110.9	113.6	145.3	202.1	340.2	738.9	823.0	726.1	443.1	306.6	192.1
82.5°	71.6	73.2	98.8	132.9	219.7	259.7	296.6	309.9	276.6	219.7	116.1
85°	47.3	48.4	65.3	84.9	136.1	128.1	131.2	171.8	188.5	144.8	59.2
87.5°	27.2	28.0	39.2	43.7	61.3	48.1	52.1	81.6	112.1	94.4	34.1
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):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	734.5	734.5	734.5	734.5	734.5	734.5	734.5	734.5	734.5	734.5	734.5
2.5°	725.3	722.1	714.8	710.4	708.5	707.7	706.9	708.5	708.5	707.7	706.0
5°	712.1	706.0	694.1	685.7	681.3	680.1	681.7	683.6	684.9	684.9	683.6
7.5°	702.5	693.7	677.7	666.0	659.3	657.2	661.6	668.8	673.6	676.1	676.5
10°	694.5	682.5	664.8	652.8	647.2	646.4	652.0	661.2	671.3	675.7	676.5
12.5°	687.2	673.6	654.5	643.2	639.2	641.2	648.9	657.2	668.8	675.2	675.7
15°	680.5	666.5	646.0	634.4	633.6	636.8	644.0	650.8	659.6	667.7	667.7
17.5°	672.5	657.2	636.1	625.2	625.2	628.0	632.8	636.5	642.0	649.7	649.3
20°	662.9	647.2	625.6	614.4	612.0	610.4	610.4	611.2	616.0	622.8	624.0
22.5°	655.6	639.7	616.8	603.2	592.4	582.0	577.6	576.0	580.4	586.8	588.4
25°	655.6	639.7	614.0	591.2	564.8	544.7	536.3	534.0	538.4	544.4	546.8
27.5°	666.5	650.4	620.4	580.4	531.9	499.9	489.9	487.9	491.9	496.7	499.1
30°	691.7	676.1	638.8	567.9	495.5	453.5	442.3	440.3	442.3	444.3	447.1
32.5°	733.7	720.5	668.8	556.8	458.7	411.4	397.8	394.7	395.5	395.9	398.2
35°	802.1	796.2	708.9	543.6	423.9	377.1	363.0	356.6	356.2	358.2	361.0
37.5°	907.1	910.6	760.6	524.4	395.1	352.6	338.6	332.3	329.0	333.1	336.2
40°	1055.1	1063.6	820.2	498.4	371.4	338.2	323.5	317.4	313.0	311.8	313.4
42.5°	1247.7	1245.2	881.0	465.1	345.9	328.7	313.0	306.6	299.4	290.2	288.2
45°	1475.8	1441.3	931.8	424.3	316.6	319.5	303.4	294.6	283.4	269.8	268.2
47.5°	1745.2	1650.3	963.0	380.6	289.4	307.4	292.6	279.0	262.6	253.8	252.6
50°	2069.8	1894.9	985.1	336.2	264.9	292.2	277.4	259.4	243.4	241.0	240.6
52.5°	2454.1	2183.5	1012.3	296.2	245.8	272.6	262.2	243.8	231.0	232.1	232.1
55°	2862.7	2482.1	1013.1	264.5	228.9	249.8	250.9	236.2	226.2	230.2	231.4
57.5°	3235.4	2743.0	933.4	242.1	213.0	231.8	247.3	239.0	231.4	245.4	246.5
60°	3560.4	2944.0	762.1	223.7	199.8	224.9	255.3	256.1	254.6	292.6	295.4
62.5°	3679.2	2946.0	541.1	208.2	192.5	228.9	272.2	273.4	273.4	308.6	313.8
65°	3512.8	2700.6	360.3	199.0	187.7	237.7	285.8	280.6	268.2	292.6	287.0
67.5°	2925.9	2102.3	263.4	192.9	181.0	238.1	297.8	284.6	263.4	284.2	274.6
70°	2010.9	1337.7	220.5	187.3	172.9	227.7	304.2	283.4	256.1	264.9	252.2
71°	1618.7	1067.6	209.3	185.4	169.7	221.8	305.0	281.8	252.6	258.2	246.5
72.5°	1066.3	657.7	195.7	181.0	164.9	211.3	303.0	278.1	247.8	248.2	240.6
75°	420.6	272.6	176.2	170.9	151.3	194.6	294.2	270.6	238.6	230.6	227.4
77.5°	212.6	178.1	154.9	156.9	135.3	177.3	281.8	258.2	225.8	214.9	212.6
80°	155.3	135.3	132.5	136.1	117.2	160.5	266.2	241.3	209.3	220.5	215.7
82.5°	94.4	82.4	103.6	112.5	98.1	143.3	247.8	221.8	188.5	173.7	168.1
85°	44.8	48.4	74.9	82.9	72.4	114.5	226.6	200.1	164.5	142.1	144.5
87.5°	22.0	26.8	42.9	49.6	47.7	84.1	170.9	155.3	129.7	106.9	104.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)