

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: P197306

Luminaire Tested: **NAV-AF-02-D-UNV-T4FT-8030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197306
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24256)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-02-D-UNV-T4FT-8030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 80 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6601 lumens
Efficiency: N/A
Efficacy: 100.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G2

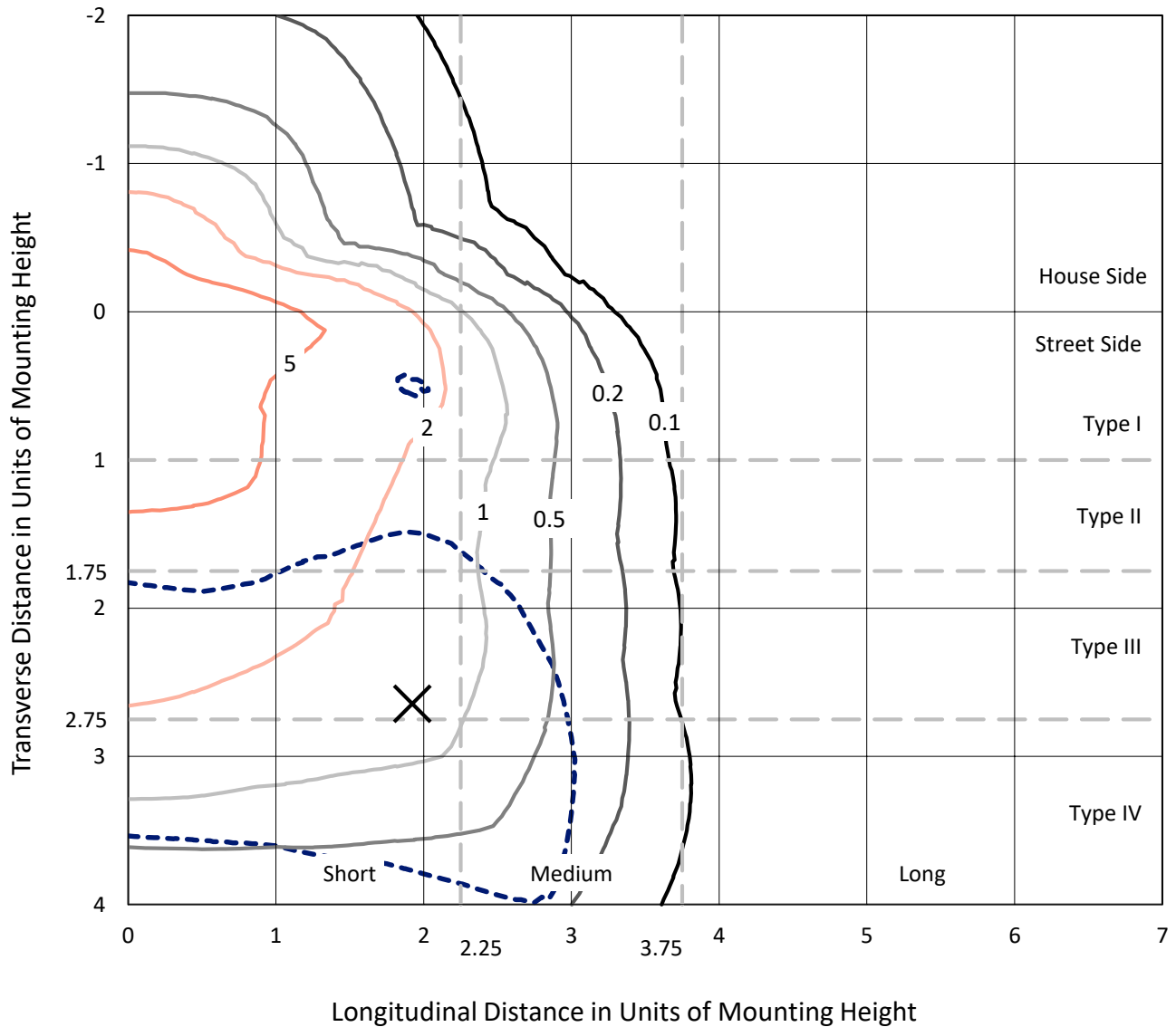
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

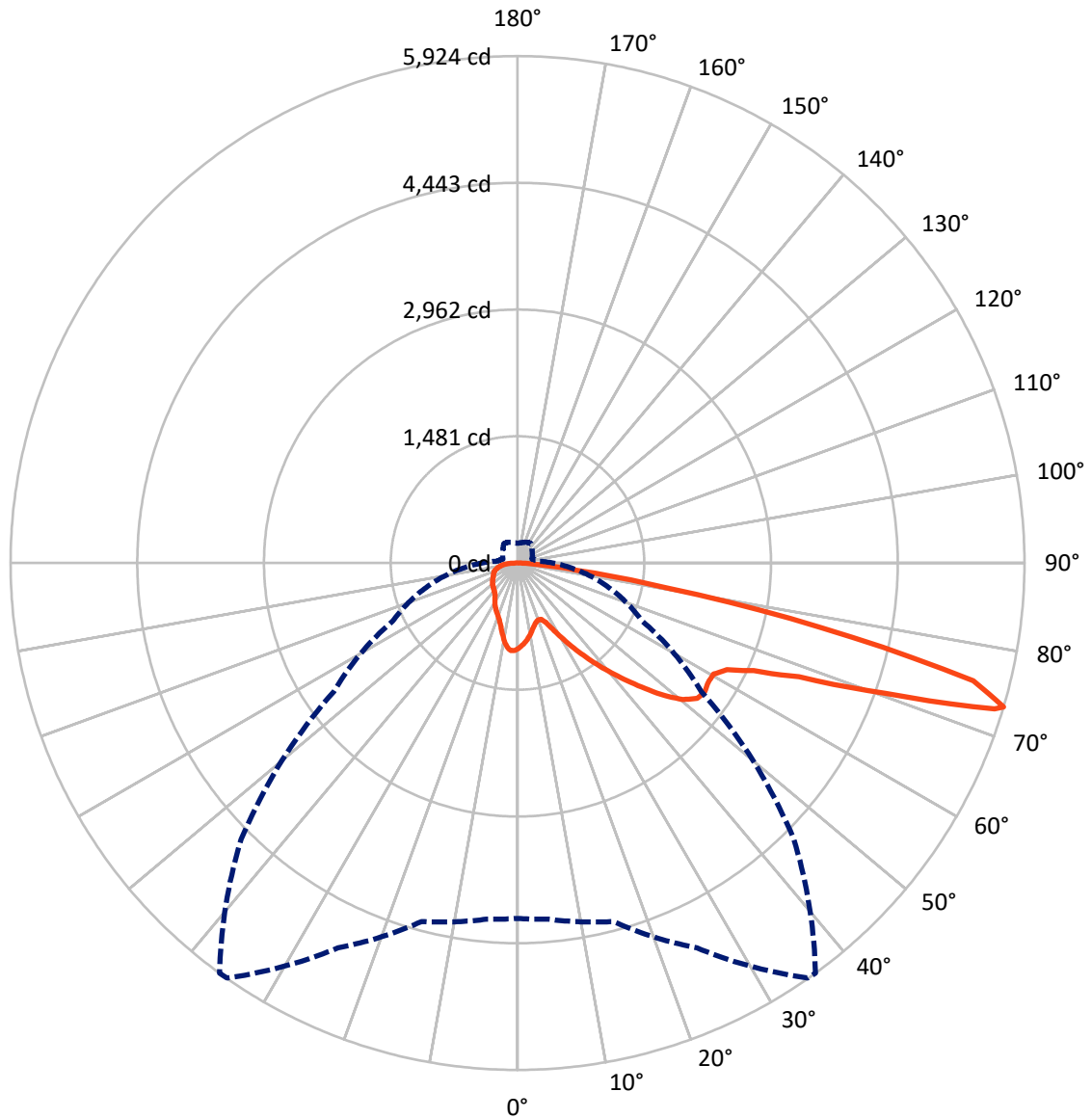
× Max cd
 - - - 1/2 Max cd



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

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Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral - - - Horizontal Cone Through 73-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1272.9	0.0	1272.9
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	5328.1	0.0	5328.1
	% Fixture	80.7	0.0	80.7
Total	Lumens	6601.0	0.0	6601.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.8	1.4
10°-20°	228.1	3.5
20°-30°	365.7	5.5
30°-40°	604.9	9.2
40°-50°	936.0	14.2
50°-60°	1253.0	19.0
60°-70°	1636.8	24.8
70°-80°	1337.0	20.3
80°-90°	148.8	2.3
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°	6601.0	100.0
0°-180°	6601.0	100.0



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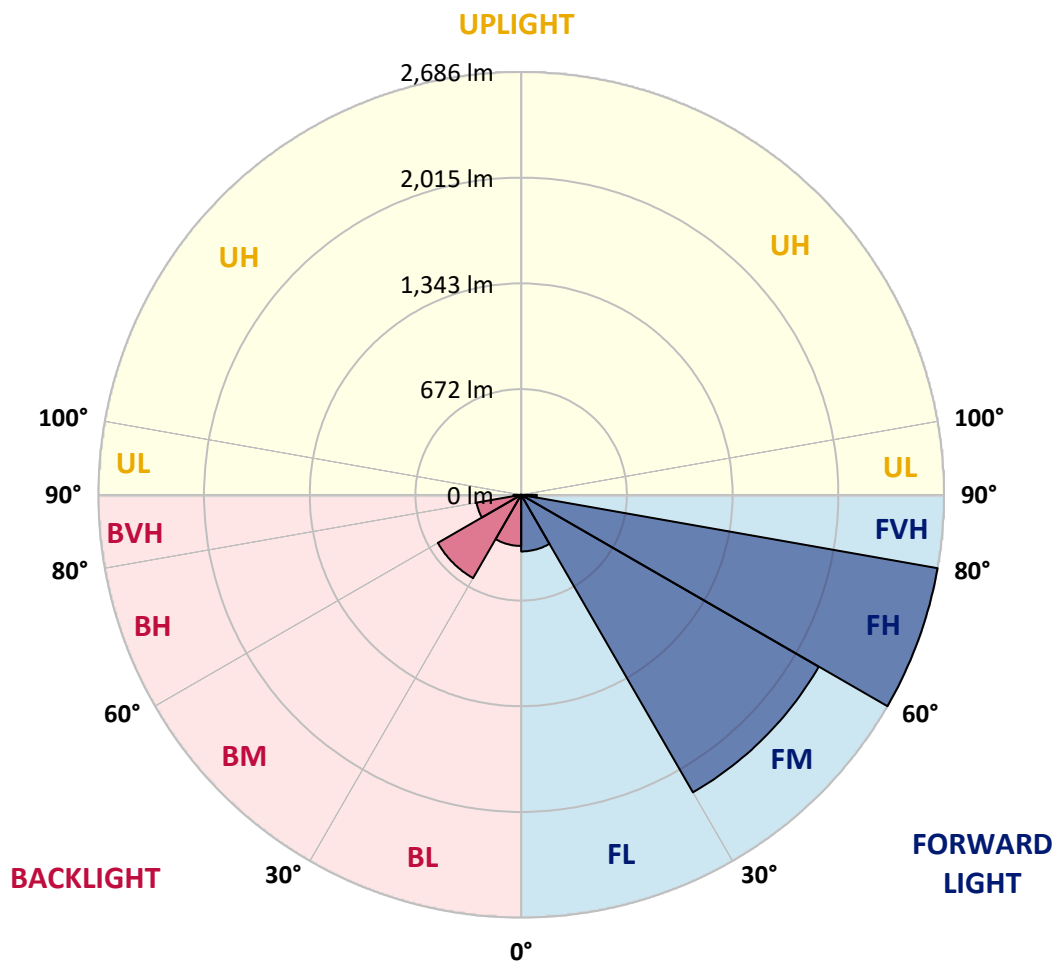
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	359.7	5.4			
FM (30°-60°)	2182.5	33.1			
FH (60°-80°)	2686.1	40.7			G2/5000
FVH (80°-90°)	99.8	1.5			G1/100
BL (0°-30°)	324.9	4.9	B1/500		
BM (30°-60°)	611.3	9.3	B1/1000		
BH (60°-80°)	287.6	4.4	B1/500		G1/500
BVH (80°-90°)	49.0	0.7			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°	36°	45°	55°	65°	75°	85°
0°	999.9	999.9	999.9	999.9	999.9	999.9	999.9	999.9	999.9	999.9	999.9
2.5°	961.7	964.2	964.6	967.6	967.6	967.1	968.4	973.4	976.0	981.8	986.9
5°	914.3	917.2	918.5	923.5	929.8	930.2	934.9	944.5	953.7	966.7	977.6
7.5°	861.0	864.4	867.7	878.2	887.5	888.3	897.1	912.6	924.8	940.7	960.4
10°	809.5	810.3	813.6	827.1	839.2	840.5	853.1	870.7	887.0	909.3	931.5
12.5°	767.1	769.6	768.8	778.8	789.3	790.2	806.9	829.2	853.1	878.2	904.7
15°	752.4	752.0	743.2	742.8	747.4	748.2	764.6	790.6	817.4	848.5	882.4
17.5°	762.5	759.1	736.1	721.8	718.9	719.7	731.9	760.4	788.9	824.5	865.2
20°	817.8	804.8	750.7	716.3	706.7	706.7	713.8	736.9	768.3	809.9	861.0
22.5°	949.1	929.0	813.6	752.4	718.4	715.1	709.6	727.2	762.1	812.0	878.2
25°	1114.4	1104.7	929.0	848.5	778.4	767.5	731.4	737.7	775.1	834.6	925.2
27.5°	1267.4	1250.7	1080.4	988.1	889.1	872.4	796.0	770.4	806.1	876.6	993.1
30°	1356.8	1345.4	1236.0	1147.9	1030.1	1008.7	899.2	835.0	861.5	945.8	1089.6
32.5°	1454.1	1447.4	1392.0	1311.9	1182.7	1158.0	1032.6	940.3	946.2	1037.6	1205.8
35°	1548.4	1557.2	1525.8	1467.1	1347.1	1324.1	1211.7	1077.9	1050.6	1140.8	1329.9
37.5°	1661.7	1663.8	1644.1	1605.9	1519.9	1501.0	1408.4	1224.7	1164.3	1250.7	1449.9
40°	1887.7	1854.6	1777.4	1747.2	1696.1	1684.3	1578.6	1359.3	1270.0	1363.5	1563.1
42.5°	2132.3	2080.7	1959.9	1910.4	1889.8	1878.9	1720.4	1449.0	1368.9	1476.3	1674.3
45°	2329.4	2287.4	2169.2	2107.9	2110.4	2092.8	1844.1	1529.1	1476.3	1589.5	1798.4
47.5°	2523.6	2453.5	2321.0	2312.2	2341.5	2315.5	1962.4	1609.3	1588.3	1712.8	1922.5
50°	2536.1	2472.4	2418.7	2489.2	2539.5	2507.2	2069.8	1714.1	1704.5	1862.2	2082.8
52.5°	2383.1	2373.8	2455.6	2574.3	2657.8	2628.8	2157.4	1821.9	1823.1	2048.8	2277.8
55°	2327.3	2315.5	2413.7	2559.6	2672.4	2655.2	2222.8	1943.5	1954.8	2275.3	2487.1
57.5°	2421.2	2391.9	2411.2	2531.9	2638.1	2628.0	2290.8	2078.6	2099.1	2536.1	2680.4
60°	2712.7	2652.7	2550.4	2573.0	2639.3	2633.4	2388.1	2229.1	2263.5	2807.9	2802.9
62.5°	3149.3	3081.4	2872.9	2772.3	2757.6	2746.3	2548.7	2414.1	2431.3	3004.2	2731.6
65°	3628.3	3555.3	3307.4	3142.6	3056.2	3031.9	2807.9	2637.2	2529.4	3003.8	2453.9
67.5°	4165.9	4088.8	3841.7	3684.5	3590.9	3549.4	3228.6	2817.6	2497.6	2749.6	1963.7
70°	4716.6	4643.2	4530.0	4584.9	4626.0	4562.7	3891.2	2877.5	2268.6	2155.7	1318.6
72.5°	4424.3	4418.4	4504.4	5025.3	5817.6	5830.1	4553.1	2708.1	1752.7	1281.3	702.9
73°	4152.9	4177.7	4337.1	4960.3	5919.5	5923.7	4566.1	2620.4	1609.3	1103.9	617.4
75°	2151.5	2319.3	2910.7	4022.1	5481.2	5500.9	4025.0	1983.8	959.2	613.2	416.0
77.5°	576.3	568.7	937.8	1959.5	3654.3	3628.3	2543.3	960.4	459.7	384.6	291.9
80°	197.5	200.1	319.2	716.8	1705.7	1766.5	1103.9	419.0	302.4	268.0	206.8
82.5°	100.7	104.0	166.9	304.9	713.4	698.3	355.2	246.6	202.6	162.7	115.8
85°	53.7	55.4	91.8	158.1	261.7	264.6	125.0	131.7	128.8	92.3	57.0
87.5°	26.4	27.3	44.0	69.6	96.9	93.5	43.6	57.0	63.3	52.0	31.5
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°	999.9	999.9	999.9	999.9	999.9	999.9	999.9	999.9	999.9	999.9	999.9
2.5°	993.1	993.1	998.6	1007.8	1014.5	1020.8	1025.0	1031.7	1035.5	1035.1	1034.7
5°	986.4	990.6	1001.5	1012.9	1020.4	1025.4	1025.4	1028.4	1028.4	1027.1	1025.4
7.5°	970.9	978.1	994.0	1004.1	1006.2	1000.7	989.8	981.4	970.9	965.5	963.4
10°	946.2	955.4	975.5	980.1	969.2	950.0	923.5	900.9	880.7	871.5	868.6
12.5°	921.9	934.0	952.9	945.8	919.8	882.0	841.3	810.3	787.6	778.8	775.9
15°	901.7	916.4	931.1	908.8	863.6	811.1	766.3	737.3	720.1	713.4	711.7
17.5°	888.3	905.5	910.5	869.0	806.1	747.4	707.5	688.7	681.1	678.2	677.3
20°	889.1	908.4	896.3	830.4	750.7	691.6	665.2	659.7	659.7	659.7	659.3
22.5°	912.2	929.0	890.4	794.4	697.5	644.6	633.3	637.9	641.3	641.3	640.8
25°	960.0	969.2	894.6	759.5	647.6	603.9	604.4	613.2	616.1	616.1	615.3
27.5°	1033.0	1025.4	902.1	721.0	598.5	567.0	572.9	580.9	583.0	581.7	581.3
30°	1124.4	1094.2	908.4	675.7	552.4	532.6	537.7	542.3	540.6	537.7	537.3
32.5°	1226.8	1164.3	904.7	624.9	511.7	497.0	499.9	502.4	499.9	492.8	492.8
35°	1328.3	1227.6	884.1	569.6	479.4	462.6	462.2	470.2	469.7	461.3	461.8
37.5°	1417.2	1277.5	844.3	518.8	451.7	437.4	439.1	444.1	446.7	435.3	434.1
40°	1494.8	1311.9	788.1	475.6	429.5	430.3	425.7	417.7	414.8	409.8	408.9
42.5°	1567.7	1335.8	728.5	439.5	418.1	427.8	412.3	393.4	385.4	390.0	393.0
45°	1639.5	1362.6	671.0	409.8	403.9	420.2	398.9	377.9	368.7	370.8	373.7
47.5°	1727.1	1400.0	601.8	377.9	382.1	406.4	390.5	367.8	354.0	345.6	343.1
50°	1842.4	1454.1	512.1	343.5	359.0	391.3	383.3	353.1	338.0	321.3	317.1
52.5°	1986.7	1505.2	421.5	315.8	340.1	378.3	371.6	340.6	322.1	302.0	298.6
55°	2130.6	1512.4	343.5	291.9	318.7	360.7	357.3	330.5	304.5	288.1	284.8
57.5°	2231.2	1444.8	291.1	271.8	298.2	338.9	344.3	318.3	289.8	277.2	275.1
60°	2232.9	1283.4	259.2	258.4	282.7	320.0	330.9	304.1	280.6	272.2	270.5
62.5°	2055.5	1034.3	238.6	248.3	271.4	304.5	320.8	296.1	278.5	275.1	273.5
65°	1722.9	764.2	222.3	239.1	260.9	291.5	312.5	293.6	277.6	276.4	275.1
67.5°	1272.1	523.8	208.4	227.3	249.1	278.1	304.5	289.8	272.6	277.6	276.0
70°	800.2	349.8	195.4	213.9	233.6	262.5	294.0	283.1	266.3	263.4	257.9
72.5°	451.7	252.9	179.9	196.7	213.5	242.0	279.7	271.8	252.1	240.3	234.9
73°	408.1	239.5	176.1	192.5	208.9	237.8	276.4	268.4	247.9	234.9	229.8
75°	298.6	195.9	159.0	175.3	189.6	218.5	260.4	251.6	229.4	213.9	210.5
77.5°	216.4	151.0	136.7	151.4	164.0	191.7	236.5	226.5	204.7	196.3	192.9
80°	156.0	114.5	113.2	127.5	138.4	166.5	211.0	200.5	179.5	204.2	198.8
82.5°	93.1	73.4	83.0	99.0	110.3	139.7	183.3	171.1	151.0	152.7	130.0
85°	44.5	41.5	51.6	65.0	73.0	95.6	152.7	143.0	120.8	99.0	96.9
87.5°	19.7	18.9	24.7	28.9	39.0	57.5	104.4	92.7	87.7	52.4	41.1
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)