

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: P197330

Luminaire Tested: **NAV-AF-02-D-UNV-T4W-8030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197330
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-02-D-UNV-T4W-8030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 80 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6471 lumens
Efficiency: N/A
Efficacy: 98.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G2

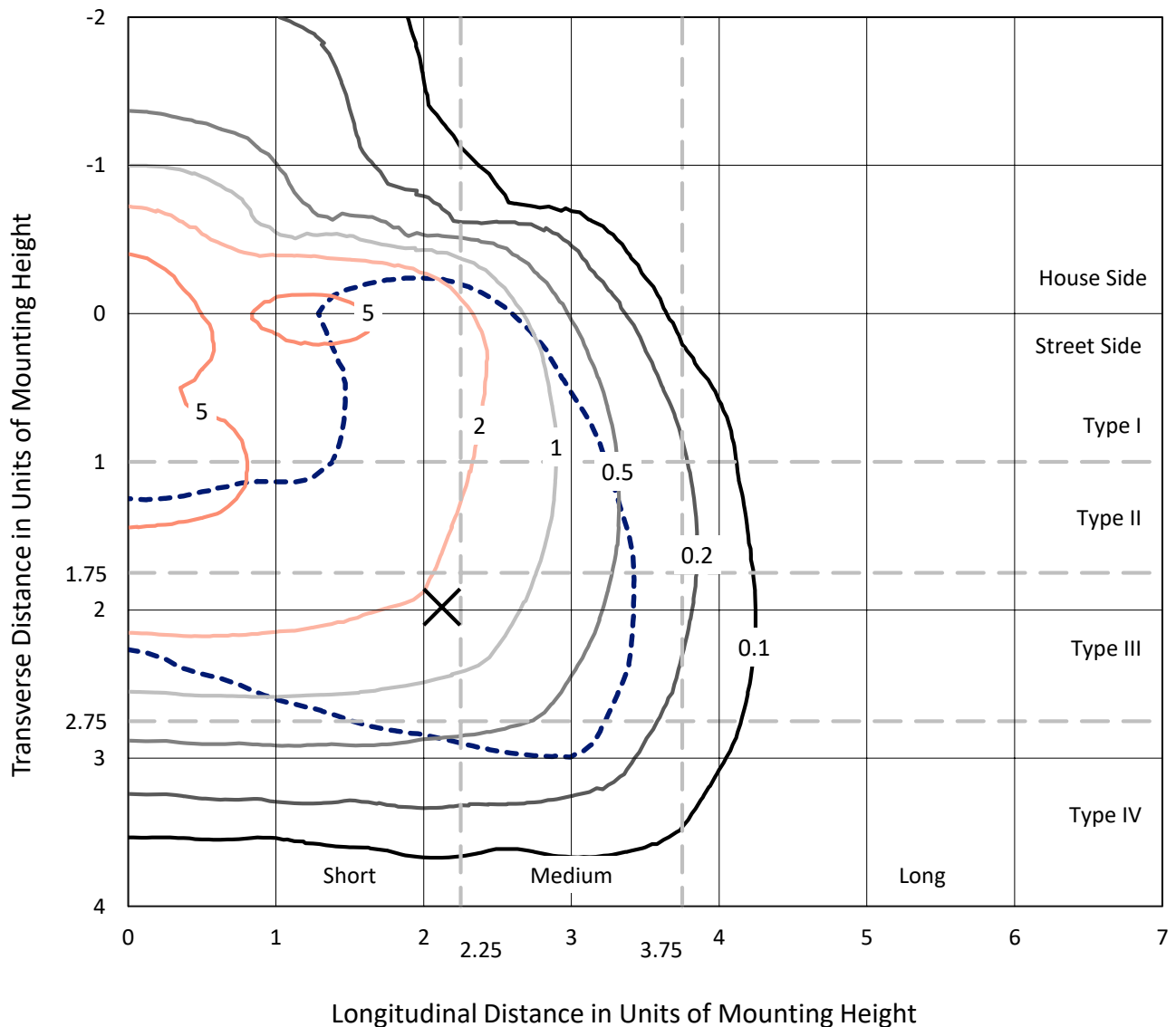
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

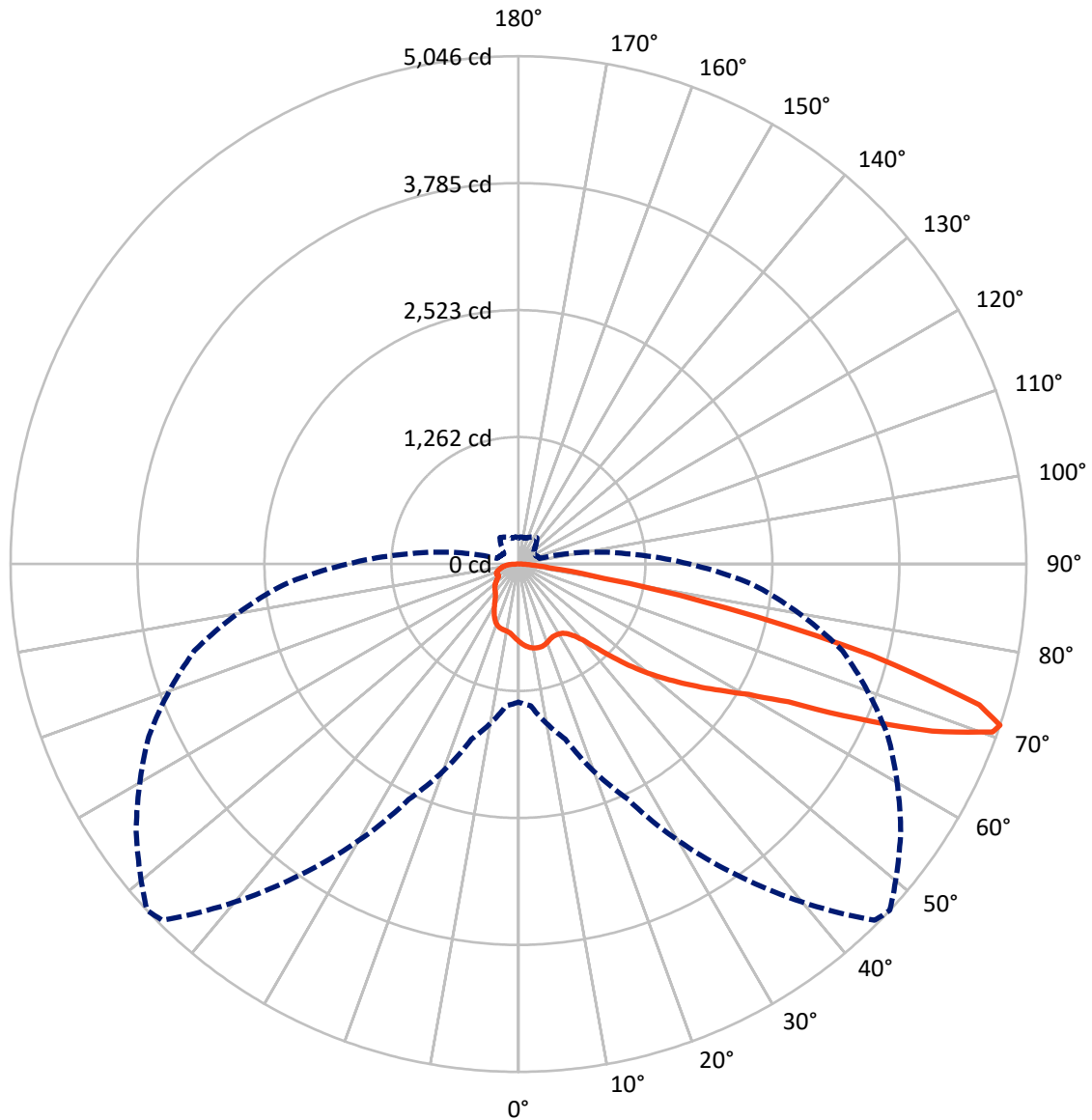
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 8.8 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
House Side	Lumens	1386.8	0.0	1386.8
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	5084.2	0.0	5084.2
	% Fixture	78.6	0.0	78.6
Total	Lumens	6471.0	0.0	6471.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.5	1.1
10°-20°	215.0	3.3
20°-30°	319.4	4.9
30°-40°	458.6	7.1
40°-50°	813.1	12.6
50°-60°	1391.4	21.5
60°-70°	1975.3	30.5
70°-80°	1081.9	16.7
80°-90°	142.8	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°	6471.0	100.0
0°-180°	6471.0	100.0



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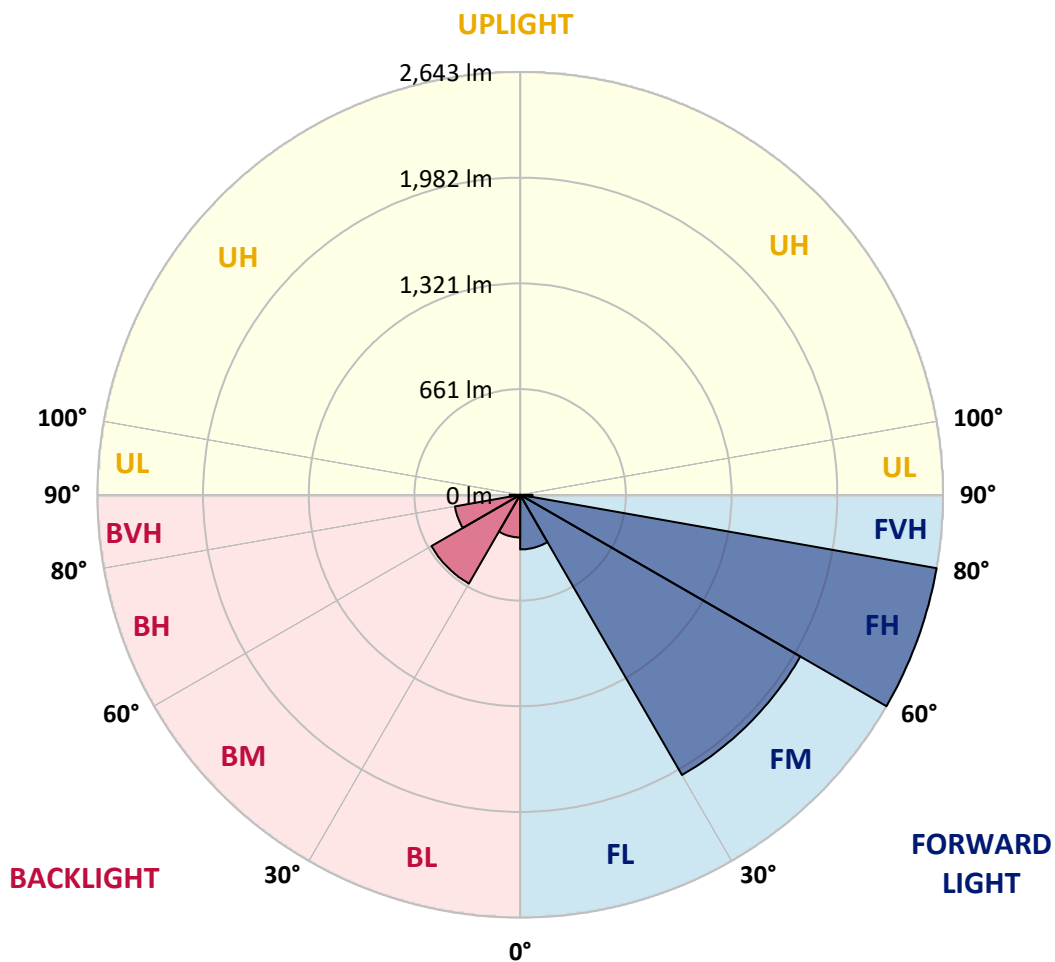
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	341.5	5.3			
FM	(30°-60°)	2022.4	31.3			
FH	(60°-80°)	2642.8	40.8			G2/5000
FVH	(80°-90°)	77.5	1.2			G1/100
BL	(0°-30°)	266.3	4.1	B1/500		
BM	(30°-60°)	640.8	9.9	B1/1000		
BH	(60°-80°)	414.4	6.4	B1/500		G1/500
BVH	(80°-90°)	65.4	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°	769.5	769.5	769.5	769.5	769.5	769.5	769.5	769.5	769.5	769.5	769.5
2.5°	816.5	814.8	815.6	812.7	805.6	798.0	798.0	790.1	781.7	773.3	764.1
5°	867.2	864.7	862.6	853.4	839.5	824.0	821.5	805.6	788.4	771.2	754.4
7.5°	909.6	907.1	900.8	884.0	863.9	840.8	837.9	816.9	794.3	770.3	746.9
10°	939.8	938.1	925.9	904.5	881.1	853.8	848.8	827.4	800.5	770.8	741.0
12.5°	956.5	954.0	939.3	914.2	886.5	858.8	853.8	833.3	802.6	769.9	735.1
15°	949.8	948.6	934.7	909.2	881.5	857.6	853.4	832.4	801.4	767.0	729.7
17.5°	921.3	924.3	913.3	888.2	865.5	848.8	844.2	824.4	795.1	759.9	721.3
20°	881.9	885.3	879.8	854.2	841.2	830.3	827.8	811.9	784.6	749.4	711.2
22.5°	840.0	842.9	843.3	819.4	815.2	811.0	808.9	797.6	775.4	743.1	704.5
25°	811.0	814.4	815.2	794.3	796.8	798.0	797.6	789.6	773.7	743.1	705.3
27.5°	803.5	805.2	804.3	785.0	789.6	796.8	797.2	795.5	780.4	751.5	717.1
30°	829.5	830.3	819.8	790.9	795.5	804.7	805.2	804.3	794.7	773.3	743.5
32.5°	941.9	941.0	905.0	830.3	814.4	817.7	819.0	826.5	827.4	809.3	781.7
35°	1113.0	1112.5	1070.6	943.1	868.1	850.4	852.1	863.9	874.3	862.2	846.3
37.5°	1301.2	1302.5	1276.9	1104.2	983.8	910.4	908.7	917.5	936.4	940.6	942.7
40°	1510.1	1516.4	1515.1	1289.1	1146.1	1012.7	996.0	985.9	1022.4	1045.4	1075.2
42.5°	1748.7	1747.0	1747.9	1492.1	1331.4	1173.8	1142.7	1095.8	1138.1	1178.0	1243.4
45°	1953.8	1960.5	1965.5	1708.0	1539.0	1357.9	1326.4	1240.9	1279.0	1338.6	1438.4
47.5°	2160.1	2148.3	2157.6	1948.3	1770.1	1568.0	1527.3	1412.0	1447.6	1531.5	1683.3
50°	2400.4	2394.9	2353.0	2262.0	2049.4	1781.0	1727.7	1590.6	1642.6	1754.6	1985.6
52.5°	2615.9	2586.6	2553.9	2508.6	2324.0	1996.5	1929.0	1776.4	1872.0	2010.8	2360.9
55°	2694.8	2675.0	2714.5	2773.2	2614.7	2216.3	2140.8	1993.2	2130.7	2303.9	2802.5
57.5°	2778.6	2785.3	2874.2	2992.9	2889.8	2450.7	2368.9	2249.8	2414.6	2631.9	3296.1
60°	2820.6	2847.4	3024.8	3247.5	3151.4	2707.8	2629.3	2544.6	2729.6	2994.2	3788.4
62.5°	2827.7	2863.8	3114.9	3336.8	3511.7	3101.5	3010.9	2919.1	3122.9	3394.7	4144.9
65°	2696.9	2752.2	3107.0	3446.7	3840.0	3759.5	3702.0	3541.8	3649.6	3747.3	4205.7
67.5°	2312.3	2372.7	2799.6	3401.4	4103.4	4442.2	4431.3	4194.8	4056.4	3883.6	3754.9
70°	1697.1	1745.8	2155.9	2907.8	3988.5	4978.1	4997.4	4617.9	4170.0	3594.3	2792.0
71°	1372.5	1414.5	1801.1	2581.5	3764.5	5005.8	5046.1	4636.8	4051.8	3333.0	2337.5
72.5°	854.2	877.7	1196.0	1948.3	3241.6	4720.6	4788.6	4395.2	3679.4	2817.2	1652.2
75°	322.5	331.7	443.7	859.3	1934.9	3546.5	3628.6	3321.7	2584.9	1608.2	691.5
77.5°	173.2	177.8	220.2	357.3	775.4	2033.0	2138.7	1894.6	1240.0	562.8	282.6
80°	116.2	119.1	152.2	211.8	356.4	774.1	862.2	760.7	464.2	321.2	201.3
82.5°	75.1	76.7	103.6	139.2	230.2	272.2	310.7	324.6	289.8	230.2	121.6
85°	49.5	50.7	68.4	88.9	142.6	134.2	137.5	179.9	197.5	151.8	62.1
87.5°	28.5	29.4	41.1	45.7	64.2	50.3	54.5	85.5	117.4	99.0	35.6
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°	769.5	769.5	769.5	769.5	769.5	769.5	769.5	769.5	769.5	769.5	769.5
2.5°	759.9	756.5	749.0	744.3	742.3	741.4	740.6	742.3	742.3	741.4	739.7
5°	746.0	739.7	727.2	718.3	713.7	712.5	714.2	716.3	717.5	717.5	716.3
7.5°	736.0	726.7	710.0	697.8	690.7	688.6	693.2	700.7	705.8	708.3	708.7
10°	727.6	715.0	696.5	684.0	678.1	677.3	683.1	692.8	703.3	707.9	708.7
12.5°	720.0	705.8	685.6	673.9	669.7	671.8	679.8	688.6	700.7	707.4	707.9
15°	712.9	698.2	676.8	664.7	663.8	667.2	674.7	681.9	691.1	699.5	699.5
17.5°	704.5	688.6	666.3	655.0	655.0	658.0	663.0	666.8	672.6	680.6	680.2
20°	694.4	678.1	655.4	643.7	641.2	639.5	639.5	640.3	645.4	652.5	653.8
22.5°	686.9	670.1	646.2	632.0	620.6	609.7	605.1	603.4	608.1	614.8	616.4
25°	686.9	670.1	643.3	619.4	591.7	570.7	561.9	559.4	564.0	570.3	572.8
27.5°	698.2	681.4	650.0	608.1	557.3	523.8	513.3	511.2	515.4	520.4	522.9
30°	724.6	708.3	669.3	595.1	519.2	475.1	463.4	461.3	463.4	465.5	468.4
32.5°	768.7	754.8	700.7	583.3	480.6	431.1	416.8	413.5	414.3	414.7	417.3
35°	840.4	834.1	742.7	569.5	444.1	395.0	380.4	373.6	373.2	375.3	378.3
37.5°	950.3	954.0	796.8	549.4	413.9	369.4	354.8	348.1	344.7	348.9	352.3
40°	1105.4	1114.2	859.3	522.1	389.2	354.4	338.8	332.5	327.9	326.7	328.4
42.5°	1307.1	1304.6	923.0	487.3	362.3	344.3	327.9	321.2	313.7	304.0	301.9
45°	1546.1	1510.1	976.3	444.5	331.7	334.6	317.9	308.6	296.9	282.6	281.0
47.5°	1828.4	1729.0	1009.0	398.8	303.2	322.1	306.5	292.3	275.1	265.9	264.6
50°	2168.5	1985.2	1032.0	352.3	277.6	306.1	290.6	271.7	255.0	252.4	252.0
52.5°	2571.0	2287.6	1060.5	310.3	257.5	285.6	274.7	255.4	242.0	243.2	243.2
55°	2999.2	2600.4	1061.4	277.2	239.9	261.7	262.9	247.4	236.9	241.1	242.4
57.5°	3389.6	2873.8	977.9	253.7	223.1	242.8	259.2	250.4	242.4	257.1	258.3
60°	3730.1	3084.3	798.4	234.4	209.3	235.7	267.5	268.4	266.7	306.5	309.5
62.5°	3854.7	3086.4	567.0	218.1	201.7	239.9	285.2	286.4	286.4	323.3	328.8
65°	3680.2	2829.4	377.4	208.4	196.7	249.1	299.4	294.0	281.0	306.5	300.7
67.5°	3065.5	2202.4	275.9	202.1	189.5	249.5	312.0	298.2	275.9	297.7	287.7
70°	2106.8	1401.5	231.1	196.3	181.2	238.6	318.7	296.9	268.4	277.6	264.2
71°	1695.9	1118.4	219.3	194.2	177.8	232.3	319.5	295.2	264.6	270.5	258.3
72.5°	1117.2	689.0	205.1	189.5	172.8	221.4	317.4	291.4	259.6	260.0	252.0
75°	440.7	285.6	184.5	179.1	158.5	203.8	308.2	283.5	249.9	241.5	238.2
77.5°	222.7	186.6	162.3	164.4	141.7	185.8	295.2	270.5	236.5	225.2	222.7
80°	162.7	141.7	138.8	142.6	122.9	168.2	278.9	252.9	219.3	231.1	226.0
82.5°	99.0	86.4	108.6	117.8	102.7	150.1	259.6	232.3	197.5	182.0	176.1
85°	47.0	50.7	78.4	86.8	75.9	119.9	237.4	209.7	172.4	148.9	151.4
87.5°	23.1	28.1	44.9	52.0	49.9	88.1	179.1	162.7	135.9	112.0	109.5
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)