

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: P196321

Luminaire Tested: **NAV-AF-01-D-UNV-T3R-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196321
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24250)
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-T3R-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 4000K, 615mA LIGHTSQUARE WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4188 lumens
Efficiency: N/A
Efficacy: 123.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Medium - Full Cutoff
BUG Rating: B1 - U0 - G1

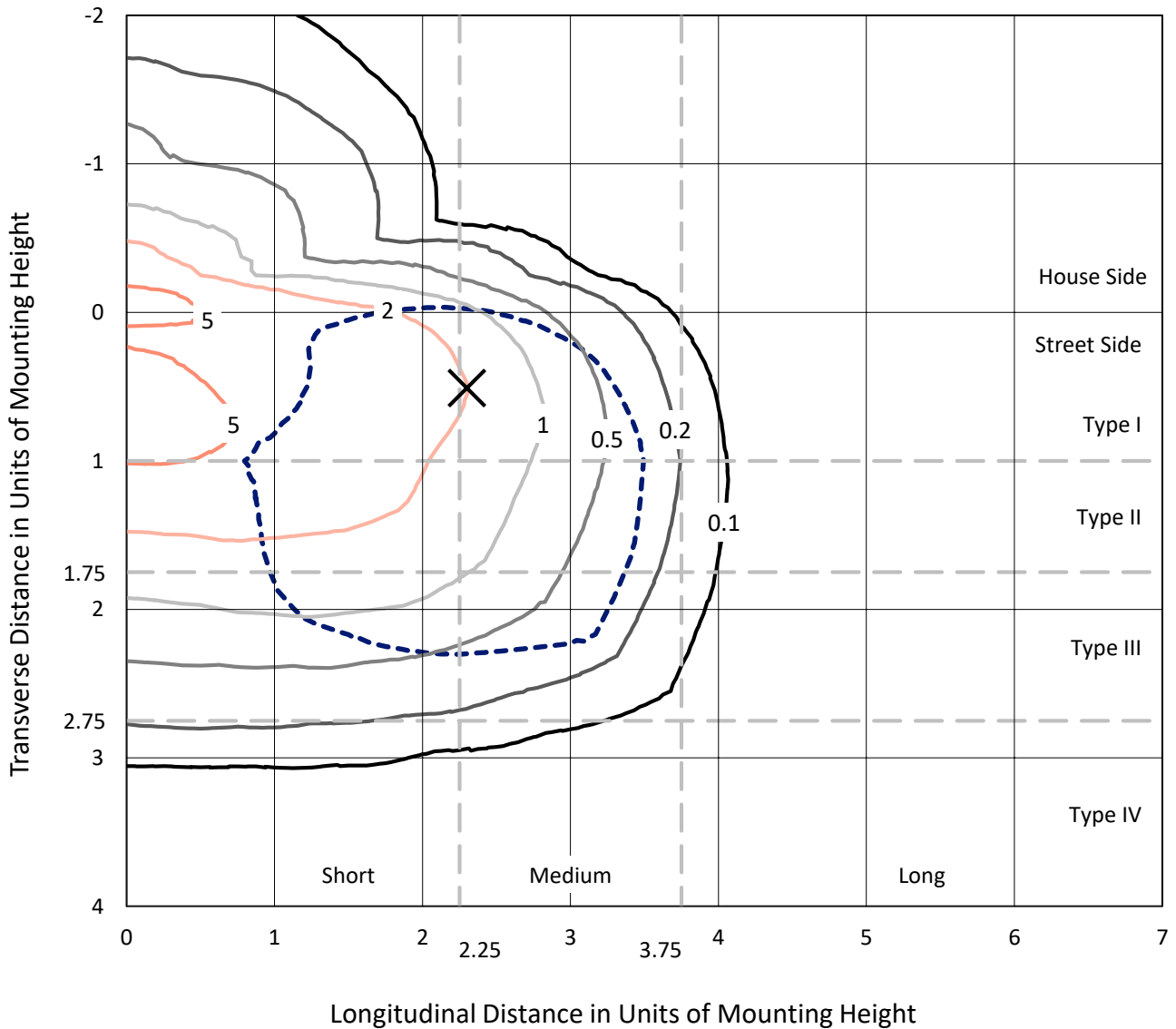
Input Watts (W): 34
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

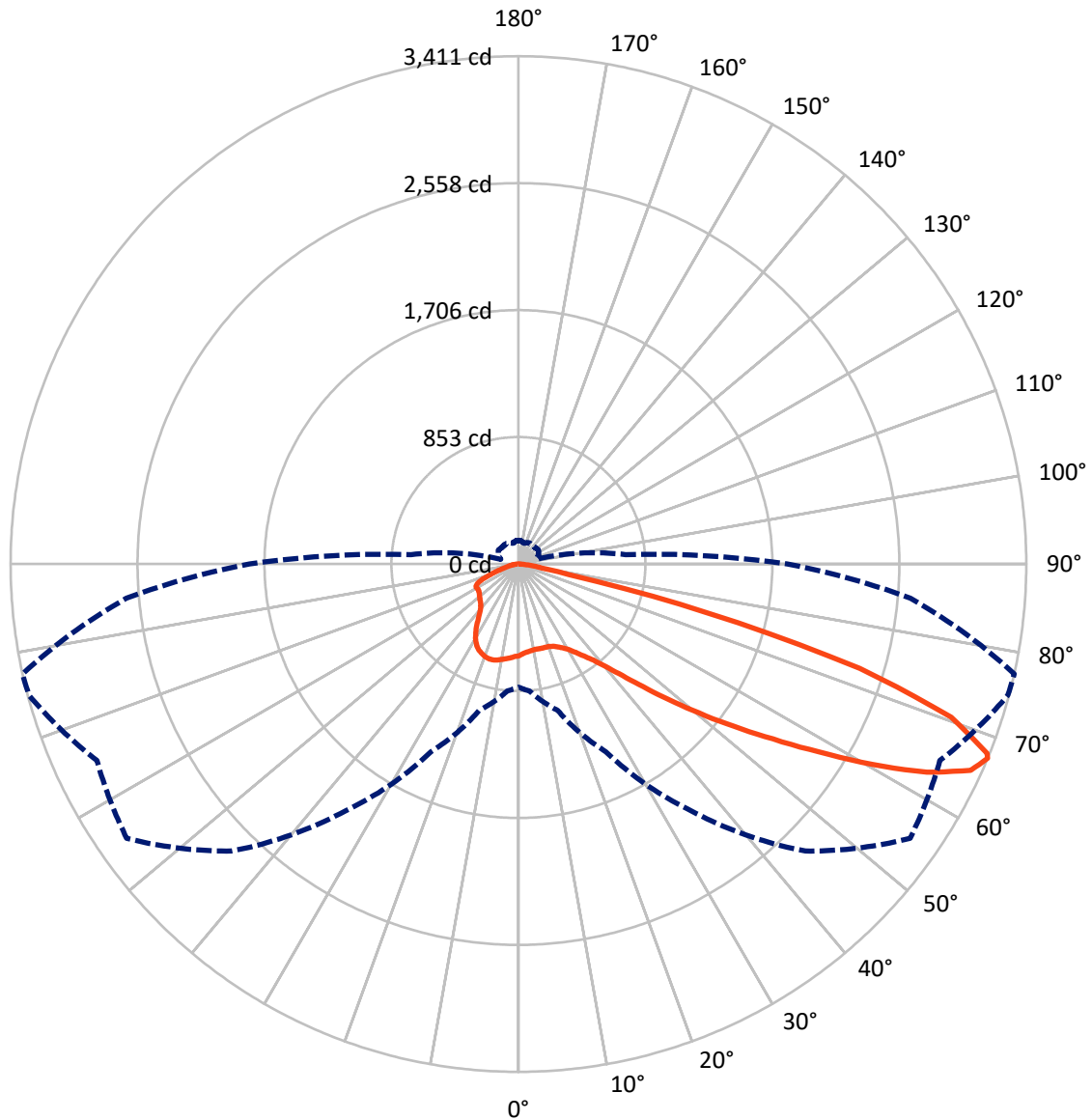
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 7.4 fc
 Type III - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 77.5-Deg Lateral - - - Horizontal Cone Through 67-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	719.7	0.0	719.7
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	3468.3	0.0	3468.3
	% Fixture	82.8	0.0	82.8
Total	Lumens	4188.0	0.0	4188.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.9	1.3
10°-20°	152.0	3.6
20°-30°	258.3	6.2
30°-40°	413.2	9.9
40°-50°	636.2	15.2
50°-60°	882.6	21.1
60°-70°	1177.4	28.1
70°-80°	560.3	13.4
80°-90°	53.0	1.3
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°	4188.0	100.0
0°-180°	4188.0	100.0



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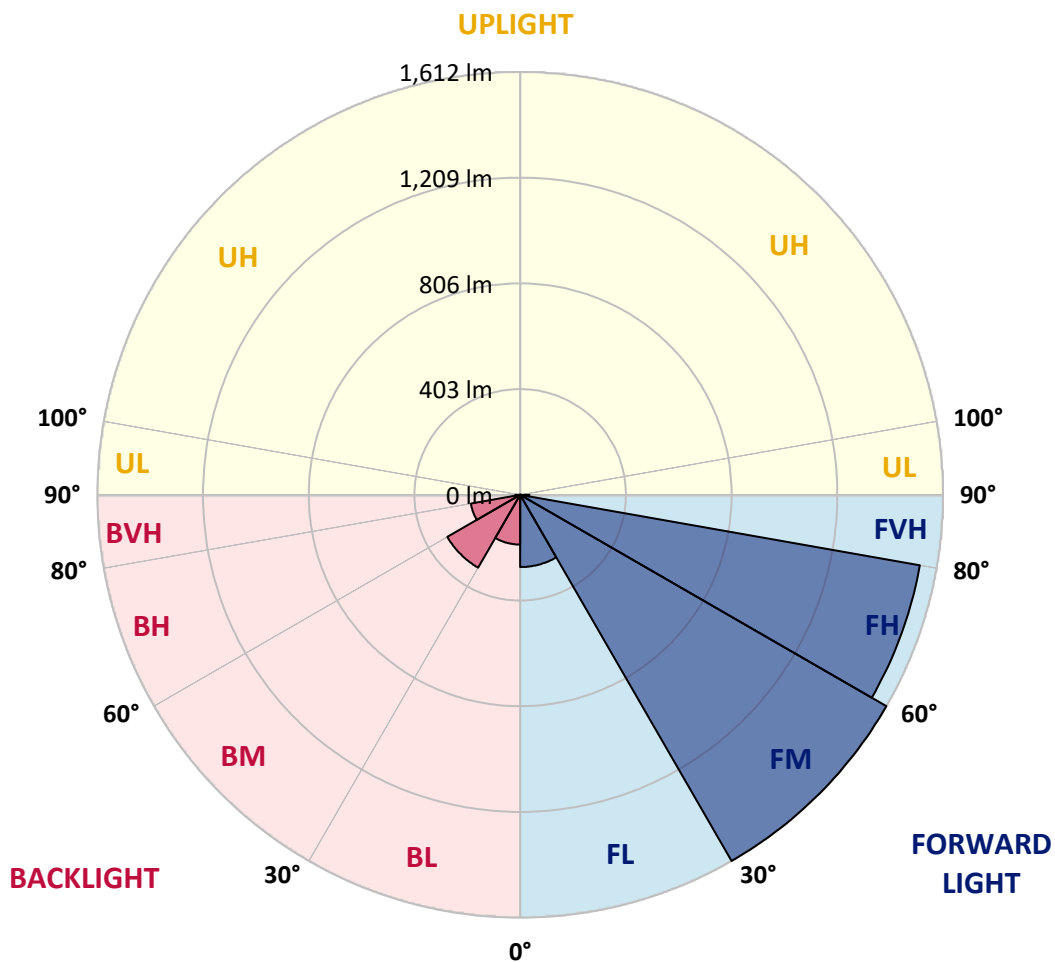
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	275.4	6.6			
FM	(30°-60°)	1611.6	38.5			
FH	(60°-80°)	1546.8	36.9			G1/1800
FVH	(80°-90°)	34.5	0.8			G1/100
BL	(0°-30°)	189.8	4.5	B1/500		
BM	(30°-60°)	320.4	7.7	B1/1000		
BH	(60°-80°)	190.8	4.6	B1/500		G1/500
BVH	(80°-90°)	18.6	0.4			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	77.5°	85°
0°	616.3	616.3	616.3	616.3	616.3	616.3	616.3	616.3	616.3	616.3	616.3
2.5°	552.7	555.3	555.6	563.0	566.4	574.9	584.3	592.5	599.8	602.4	607.0
5°	497.3	497.3	498.1	503.0	512.6	526.3	545.6	566.9	589.2	594.6	608.3
7.5°	468.3	468.8	469.3	474.2	481.7	493.9	513.3	542.4	579.3	588.4	612.4
10°	470.9	470.1	467.5	466.5	469.5	477.3	494.2	524.0	571.0	585.0	620.0
12.5°	511.5	509.9	501.5	489.0	477.6	474.8	486.4	514.6	567.1	585.0	632.7
15°	581.1	582.2	565.4	539.5	509.7	489.5	487.9	511.3	565.9	586.6	647.4
17.5°	671.8	672.3	649.0	611.4	562.0	520.3	498.6	511.3	565.9	588.1	661.6
20°	768.0	764.5	738.1	690.9	626.8	563.0	518.0	514.3	567.4	590.4	675.1
22.5°	850.6	847.3	819.6	770.1	696.6	613.5	544.1	524.7	576.0	600.1	694.0
25°	922.8	925.0	898.0	842.3	766.2	670.4	583.2	548.5	593.8	617.4	717.3
27.5°	1010.6	1006.7	975.7	922.6	837.9	729.5	632.2	578.6	615.1	638.3	745.8
30°	1112.0	1110.3	1068.4	1013.7	916.9	795.4	680.6	610.9	642.7	667.1	781.5
32.5°	1235.3	1235.0	1190.0	1123.0	1005.7	870.0	737.8	655.2	683.1	707.8	828.9
35°	1374.8	1374.5	1328.0	1239.4	1108.0	952.7	805.1	709.0	733.1	759.0	885.4
37.5°	1471.6	1470.1	1445.7	1359.8	1221.1	1048.6	889.3	781.5	789.8	818.8	953.4
40°	1490.3	1499.6	1520.6	1469.9	1344.6	1155.3	973.5	859.4	867.2	904.5	1039.1
42.5°	1470.1	1482.3	1551.9	1566.1	1468.0	1284.5	1079.2	967.4	977.2	1023.6	1139.8
45°	1452.5	1463.1	1550.4	1619.4	1590.0	1425.3	1211.0	1099.2	1117.8	1175.3	1254.8
47.5°	1422.4	1432.3	1519.8	1629.0	1659.5	1560.9	1369.6	1257.6	1289.6	1359.3	1385.7
50°	1420.9	1425.3	1478.2	1596.9	1683.7	1664.0	1545.5	1442.9	1492.1	1572.4	1530.6
52.5°	1381.6	1412.4	1460.3	1545.7	1684.2	1724.1	1718.6	1646.1	1721.9	1810.7	1689.6
55°	1140.8	1176.3	1400.7	1520.6	1681.1	1775.5	1876.8	1862.3	1980.8	2074.2	1867.7
57.5°	1065.2	1080.2	1228.9	1528.1	1707.0	1860.7	2035.0	2094.5	2277.0	2379.0	2081.3
60°	1044.5	1060.3	1194.4	1531.7	1777.1	2015.8	2249.6	2356.7	2625.2	2733.3	2323.8
62.5°	1021.5	1042.0	1197.0	1535.0	1900.3	2245.2	2534.3	2641.2	2982.6	3079.2	2551.1
65°	954.2	981.3	1149.1	1513.9	2035.2	2533.0	2910.7	2937.8	3278.0	3339.3	2688.3
67°	826.5	856.3	1017.6	1391.1	2022.8	2726.9	3211.8	3123.5	3403.6	3411.0	2643.8
67.5°	786.1	816.9	973.0	1340.2	1987.3	2752.2	3265.1	3149.1	3402.5	3394.3	2602.4
70°	529.4	564.1	689.1	984.0	1594.1	2561.5	3252.2	3070.2	3179.3	3084.4	2235.9
72.5°	262.8	263.8	343.8	539.0	965.9	1837.1	2712.9	2626.4	2577.2	2397.9	1640.7
75°	126.5	128.9	162.3	238.1	407.2	948.5	1850.1	1772.2	1509.0	1306.5	821.1
77.5°	96.6	98.9	126.0	155.1	169.8	309.3	916.4	740.6	437.2	349.2	231.4
80°	74.6	79.0	106.4	119.1	112.3	124.0	288.2	226.8	170.1	156.1	114.7
82.5°	58.2	60.9	90.3	90.3	77.6	83.1	134.1	130.9	105.6	95.2	61.6
85°	41.1	46.3	72.7	67.3	51.0	51.6	80.2	76.9	54.3	43.8	24.0
87.5°	18.4	23.5	51.8	44.0	27.2	21.0	32.8	28.2	21.5	16.6	11.2
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°	616.3	616.3	616.3	616.3	616.3	616.3	616.3	616.3	616.3	616.3	616.3
2.5°	612.2	616.3	622.9	626.8	631.9	633.9	636.1	639.7	642.5	641.7	640.5
5°	617.9	624.9	632.9	635.6	635.6	632.9	631.4	631.7	630.9	630.3	628.8
7.5°	626.1	635.8	641.5	638.8	630.9	620.7	611.2	605.5	600.1	596.7	597.7
10°	637.8	648.4	648.8	637.3	618.2	596.2	577.3	565.1	553.4	548.3	549.8
12.5°	654.7	665.3	656.2	631.7	598.0	563.5	528.9	503.7	481.2	475.8	474.2
15°	672.8	681.1	660.9	619.5	569.0	512.3	454.1	416.5	391.4	387.0	385.4
17.5°	688.5	693.3	658.6	597.7	523.1	433.8	366.0	340.6	335.5	338.1	338.1
20°	702.6	701.0	648.4	564.1	450.9	346.9	307.5	307.3	314.3	320.7	321.2
22.5°	720.2	708.0	632.4	514.1	364.8	289.4	282.6	289.4	297.2	304.4	305.2
25°	741.1	715.8	610.9	442.9	293.3	262.8	265.6	271.3	276.2	281.9	282.1
27.5°	762.1	721.7	580.6	359.3	254.5	245.7	248.8	251.1	252.4	256.0	256.0
30°	786.4	726.4	536.8	287.9	236.6	230.7	228.8	227.8	228.8	233.7	234.1
32.5°	816.9	734.7	477.1	246.9	228.3	220.0	210.7	205.5	209.2	218.0	219.5
35°	851.7	744.5	405.4	230.7	225.5	214.8	197.7	189.8	191.1	199.1	200.4
37.5°	895.2	757.2	334.7	226.8	228.3	214.3	191.8	180.4	174.7	175.0	174.7
40°	950.8	769.9	278.8	227.8	234.6	215.6	188.9	171.1	159.2	159.7	160.7
42.5°	1009.0	778.2	243.4	230.9	242.0	217.5	187.9	162.0	151.7	160.5	168.5
45°	1077.2	775.8	224.9	233.7	247.8	218.2	184.0	161.0	152.5	178.9	193.8
47.5°	1155.3	765.7	214.6	235.1	249.3	218.0	181.2	164.4	159.0	204.8	221.9
50°	1240.2	749.9	206.3	233.0	248.5	217.0	184.3	168.5	161.5	210.4	223.6
52.5°	1333.1	735.4	197.7	228.3	244.6	213.8	188.2	166.7	154.3	193.8	204.0
55°	1443.2	732.0	188.2	220.3	238.1	210.4	186.1	161.0	146.3	171.9	178.1
57.5°	1569.0	753.0	175.7	210.4	229.3	203.8	181.2	157.9	143.4	156.3	159.7
60°	1728.7	799.3	162.5	200.1	218.5	193.6	176.8	158.7	144.2	154.1	154.8
62.5°	1853.5	841.1	150.7	187.4	204.0	181.5	172.2	159.5	146.5	157.1	155.8
65°	1898.8	820.6	136.0	168.5	183.5	168.0	165.7	160.0	146.5	159.0	156.1
67°	1805.8	723.0	121.9	149.7	164.1	156.1	159.5	157.9	143.9	158.7	153.7
67.5°	1761.6	688.5	118.3	146.5	159.0	152.5	157.9	156.9	143.1	158.1	152.5
70°	1452.8	493.9	99.9	123.0	133.1	134.3	148.3	150.2	137.0	148.6	138.2
72.5°	1033.7	309.1	86.2	95.2	107.4	115.0	135.3	141.1	128.7	129.2	120.6
75°	511.5	165.9	76.9	73.6	83.6	95.7	118.0	128.7	116.5	107.7	104.9
77.5°	172.7	94.0	65.0	59.3	65.0	76.9	97.9	112.3	102.8	91.1	89.3
80°	89.3	68.3	50.7	47.7	51.2	59.5	76.6	93.5	87.8	88.3	72.7
82.5°	55.6	41.6	36.5	36.2	38.9	45.5	56.5	75.8	75.3	64.4	46.9
85°	25.9	24.0	23.3	24.0	24.9	25.9	36.7	54.1	57.2	34.7	30.8
87.5°	10.8	10.6	9.3	10.1	11.2	10.8	14.7	23.0	32.1	21.8	19.9
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)