

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: P196297

Luminaire Tested: **NAV-AF-01-D-UNV-T3-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196297
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (p24135)
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-T3-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 4000K, 615mA LIGHTSQUARE WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4118.4 lumens
Efficiency: N/A
Efficacy: 121.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G1

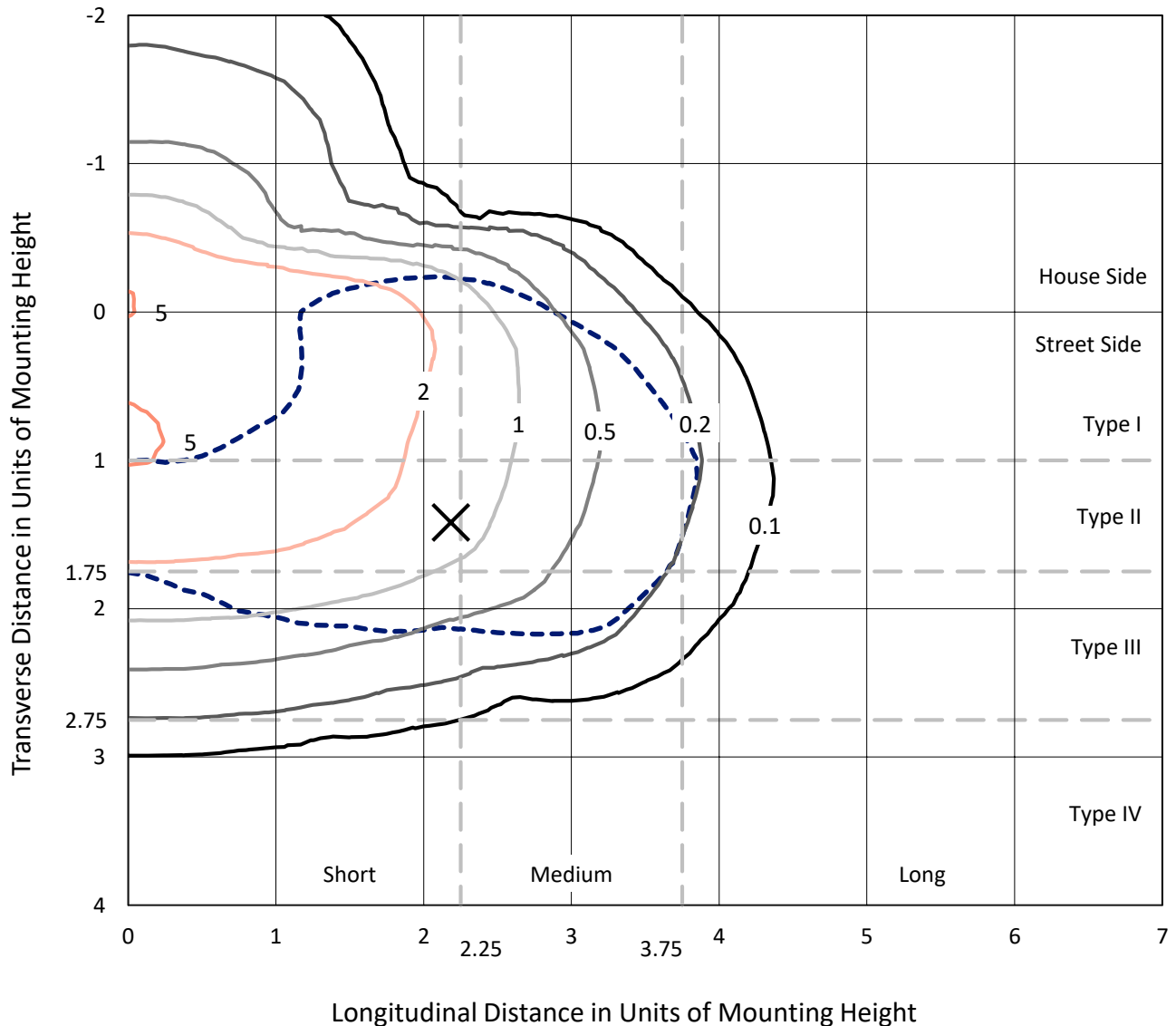
Input Watts (W): 34
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

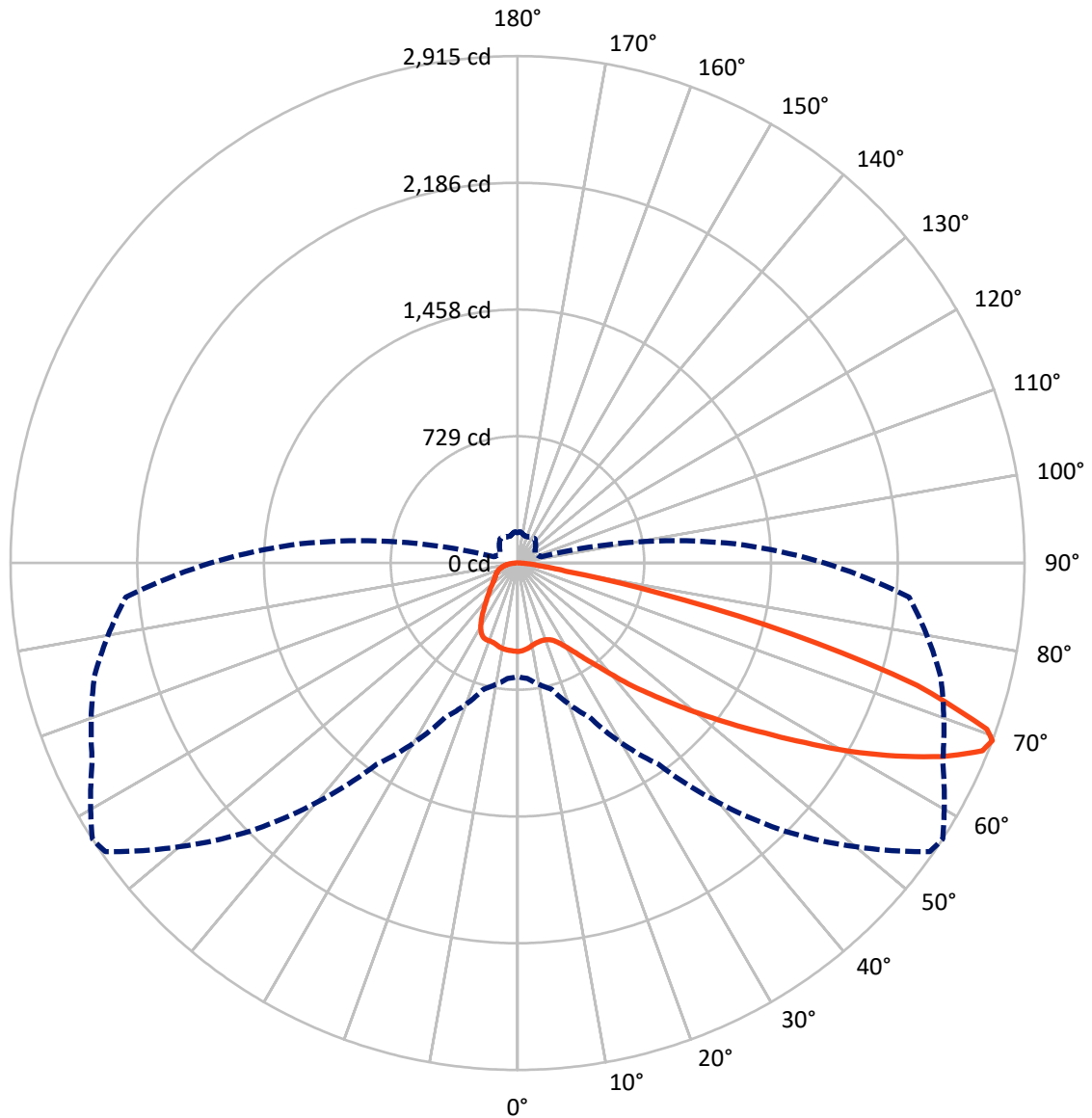
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 5.2 fc
 Type III - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	908.8	0.0	908.8
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	3209.6	0.0	3209.6
	% Fixture	77.9	0.0	77.9
Total	Lumens	4118.4	0.0	4118.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.6	1.2
10°-20°	135.5	3.3
20°-30°	225.3	5.5
30°-40°	367.9	8.9
40°-50°	621.0	15.1
50°-60°	966.0	23.5
60°-70°	1150.7	27.9
70°-80°	536.1	13.0
80°-90°	68.2	1.7
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°	4118.4	100.0
0°-180°	4118.4	100.0



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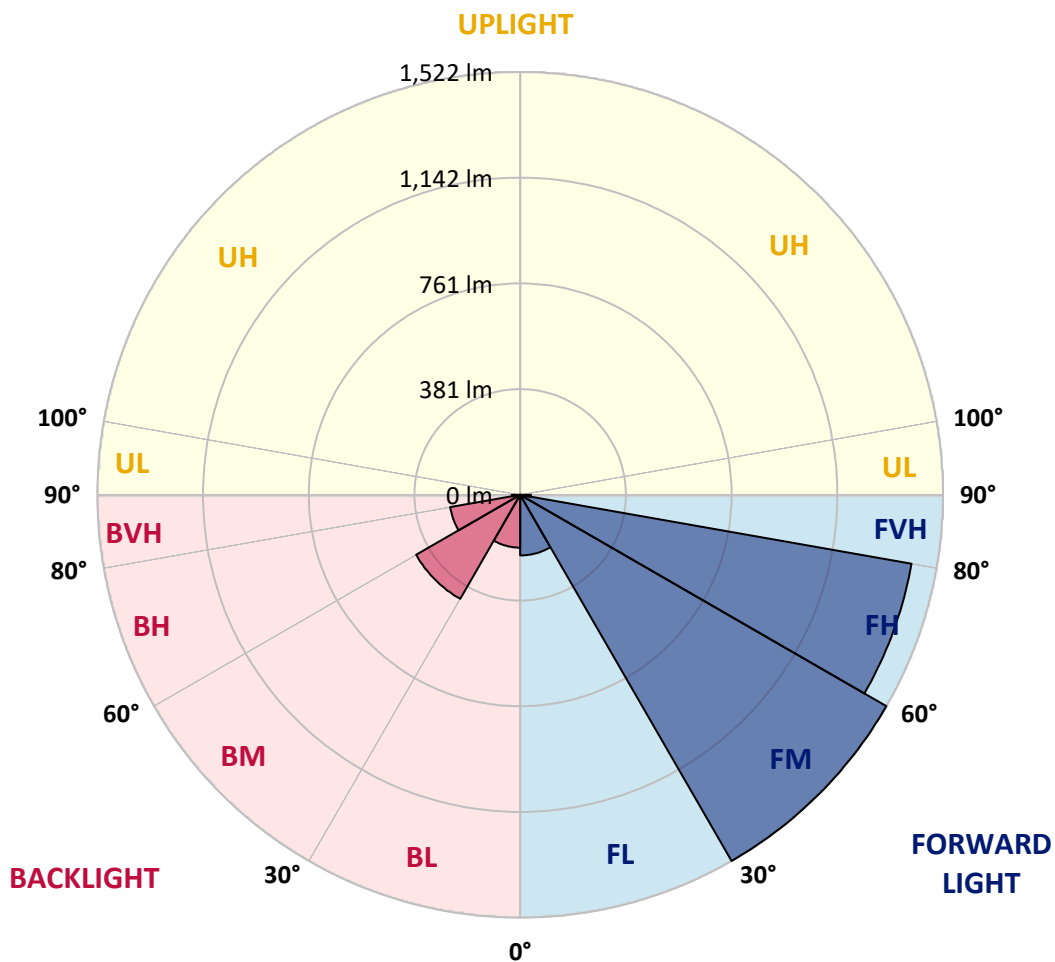
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	218.1	5.3			
FM	(30°-60°)	1522.4	37.0			
FH	(60°-80°)	1430.7	34.7			G1/1800
FVH	(80°-90°)	38.3	0.9			G1/100
BL	(0°-30°)	190.3	4.6	B1/500		
BM	(30°-60°)	432.5	10.5	B1/1000		
BH	(60°-80°)	256.1	6.2	B1/500		G1/500
BVH	(80°-90°)	29.9	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-G1

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	508.9	508.9	508.9	508.9	508.9	508.9	508.9	508.9	508.9	508.9	508.9
2.5°	506.0	506.0	507.3	507.3	507.3	506.8	505.1	505.7	504.6	503.9	502.6
5°	495.7	496.2	497.8	498.3	499.1	499.4	499.4	499.1	499.4	499.4	498.6
7.5°	481.4	482.0	483.9	484.9	487.2	489.4	490.4	490.4	491.7	492.8	493.1
10°	472.7	472.7	473.8	473.8	475.7	476.7	480.2	479.9	483.5	487.0	488.6
12.5°	471.7	471.7	471.2	469.3	468.3	468.0	471.5	472.0	477.5	483.5	486.4
15°	475.2	475.2	473.5	469.8	465.9	464.0	467.5	468.5	474.5	481.7	486.2
17.5°	486.2	485.9	482.5	475.2	468.3	465.3	466.5	467.5	473.0	481.2	486.7
20°	510.8	510.8	503.3	489.9	478.0	471.2	469.5	470.4	474.3	482.0	489.1
22.5°	553.7	554.4	541.3	519.1	498.9	484.4	478.0	478.8	480.7	488.0	495.9
25°	616.9	614.9	596.2	564.8	533.2	508.3	495.4	496.2	496.2	503.1	511.3
27.5°	683.9	684.5	657.6	623.8	582.2	545.2	524.7	524.5	524.2	530.7	539.5
30°	759.6	759.8	728.8	689.8	642.0	594.8	564.0	563.7	561.3	569.5	580.8
32.5°	842.4	842.1	806.0	762.0	709.0	655.5	615.4	615.1	613.3	624.3	638.0
35°	934.2	934.2	898.3	843.9	786.8	727.2	680.8	680.5	681.6	696.6	709.5
37.5°	1044.6	1047.0	1003.7	937.8	875.3	811.8	757.8	756.2	748.3	773.6	794.9
40°	1159.8	1166.5	1121.7	1044.6	977.1	911.4	851.9	850.8	843.9	870.8	905.4
42.5°	1284.5	1299.6	1249.7	1171.2	1097.6	1026.7	966.9	963.9	937.5	979.5	1033.6
45°	1448.0	1457.8	1385.6	1314.4	1245.0	1164.1	1092.9	1077.4	1051.0	1104.8	1174.9
47.5°	1559.3	1554.6	1509.5	1461.7	1417.2	1339.7	1230.2	1210.5	1178.3	1249.5	1326.8
50°	1628.3	1631.8	1606.5	1604.1	1601.7	1547.7	1385.3	1361.5	1324.4	1408.7	1498.9
52.5°	1674.0	1658.4	1662.9	1716.7	1781.9	1756.0	1560.6	1534.2	1496.1	1580.4	1682.1
55°	1655.0	1634.5	1675.8	1781.9	1935.0	1940.8	1753.1	1725.9	1693.3	1762.9	1902.6
57.5°	1576.5	1586.7	1652.1	1799.5	2039.7	2106.4	1974.3	1946.6	1882.3	1952.9	2112.0
60°	1466.0	1486.8	1586.7	1771.5	2113.0	2235.4	2217.1	2198.7	2087.9	2138.1	2331.8
62.5°	1347.3	1367.9	1490.7	1723.8	2080.1	2349.5	2455.5	2444.1	2314.9	2316.3	2471.3
65°	1172.0	1180.4	1305.9	1593.6	1988.5	2452.6	2694.1	2684.1	2531.9	2468.4	2510.3
67.5°	885.2	895.7	998.7	1257.9	1710.1	2396.7	2884.7	2883.2	2662.4	2524.8	2417.5
69°	653.7	666.6	750.6	976.6	1414.0	2183.7	2893.7	2915.0	2697.8	2519.0	2260.6
70°	478.3	493.1	570.8	775.2	1177.8	1948.4	2817.0	2862.8	2684.3	2482.4	2138.3
72.5°	203.3	208.3	246.5	349.8	597.5	1174.9	2307.3	2403.8	2424.4	2224.3	1670.6
75°	127.4	128.9	143.9	179.5	265.8	485.9	1494.2	1625.8	1810.0	1725.7	1118.5
77.5°	96.0	97.3	106.0	123.7	165.0	181.4	693.2	826.5	1036.8	1015.1	556.6
80°	73.6	74.4	80.2	89.9	116.3	113.6	224.9	282.6	432.7	381.8	196.9
82.5°	57.7	58.0	63.0	64.9	81.2	76.4	112.8	125.7	174.8	145.3	96.3
85°	51.1	52.0	57.0	47.5	52.0	46.1	62.0	67.2	92.8	87.6	36.4
87.5°	26.1	27.4	47.8	40.6	26.1	21.9	27.1	29.3	37.7	40.9	17.7
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°	508.9	508.9	508.9	508.9	508.9	508.9	508.9	508.9	508.9	508.9	508.9
2.5°	502.8	503.1	503.9	505.1	507.3	509.9	513.1	516.3	518.1	519.5	518.8
5°	498.6	498.9	500.4	502.8	505.4	509.4	514.6	518.6	521.5	523.3	523.1
7.5°	493.3	494.1	497.3	499.9	503.6	506.8	511.0	514.6	517.6	519.5	519.1
10°	489.4	490.2	494.1	497.6	500.7	501.2	500.4	499.4	499.1	500.4	499.9
12.5°	487.5	489.1	492.8	495.1	493.9	488.9	483.0	480.7	479.9	482.5	482.7
15°	488.0	489.4	492.6	490.9	483.9	475.4	472.2	474.0	475.7	477.2	477.5
17.5°	489.4	490.2	490.9	485.2	475.2	469.5	468.5	466.7	462.0	459.3	459.0
20°	491.7	492.8	491.4	482.2	473.3	465.9	453.3	441.9	431.1	425.2	422.9
22.5°	499.9	500.7	496.7	487.7	474.0	450.1	424.5	405.0	388.4	379.4	375.9
25°	516.0	517.3	511.8	500.4	464.6	422.7	386.6	360.2	339.3	328.6	325.6
27.5°	544.2	545.5	539.5	509.9	442.4	386.0	342.3	316.1	298.2	289.0	287.7
30°	586.4	588.2	582.7	509.6	408.7	339.3	299.0	283.7	273.4	267.1	266.8
32.5°	644.9	651.8	629.1	500.7	367.0	292.2	266.3	261.1	256.0	251.7	251.7
35°	719.2	735.4	674.9	482.0	321.1	259.9	248.1	243.1	236.8	232.3	231.8
37.5°	808.1	833.2	707.7	448.8	281.6	244.4	237.0	228.8	218.8	210.1	208.1
40°	930.2	936.0	723.7	394.7	252.1	236.0	226.8	216.5	203.8	194.1	193.0
42.5°	1052.8	1033.8	720.6	336.7	235.2	228.3	216.3	204.9	193.5	185.4	185.4
45°	1192.2	1119.2	696.6	278.4	219.9	219.6	206.4	195.6	186.9	180.9	179.5
47.5°	1325.7	1195.9	655.2	235.5	204.1	210.9	200.1	191.4	183.5	177.7	176.7
50°	1487.6	1284.8	611.2	205.4	188.7	203.3	197.5	193.0	185.4	175.3	174.3
52.5°	1648.4	1388.8	577.1	182.7	175.3	197.2	199.1	199.6	192.5	173.0	171.7
55°	1821.2	1499.7	541.3	165.0	164.3	194.4	202.7	202.2	198.8	173.5	171.3
57.5°	1985.3	1611.2	487.7	152.6	155.6	191.4	203.6	195.1	189.0	176.2	172.7
60°	2121.4	1703.5	409.2	143.9	148.2	185.7	198.2	185.7	175.3	175.6	172.5
62.5°	2187.6	1729.4	312.9	133.9	142.1	176.2	190.7	178.5	169.0	176.7	174.8
65°	2137.3	1655.9	223.1	124.7	134.7	165.0	186.2	172.5	165.8	181.9	179.8
67.5°	1956.4	1455.5	161.9	116.5	127.6	153.7	177.7	166.9	162.6	185.9	181.2
69°	1764.2	1256.6	140.2	111.8	122.7	147.6	172.2	164.0	160.3	180.3	173.5
70°	1604.4	1103.5	129.5	108.8	118.4	144.2	168.0	162.1	157.9	173.8	165.6
72.5°	1150.3	713.2	108.8	100.1	107.3	136.6	158.8	155.3	148.9	156.9	151.6
75°	695.0	372.3	92.6	91.2	95.7	126.0	147.9	143.7	137.4	138.2	135.5
77.5°	319.3	172.0	77.5	80.7	83.6	112.8	134.7	130.0	124.2	122.0	122.3
80°	140.0	100.5	64.9	68.8	70.4	101.5	120.5	115.2	108.8	120.2	111.5
82.5°	75.7	58.3	50.6	53.3	57.7	88.3	104.6	97.8	91.8	106.8	86.2
85°	30.6	29.8	34.3	36.9	40.1	63.5	87.6	80.4	73.0	65.4	63.8
87.5°	13.2	14.2	16.9	17.9	21.4	39.6	58.8	51.5	51.7	44.3	43.5
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)