

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: P196369

Luminaire Tested: **NAV-AF-01-D-UNV-T4W-600**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196369  
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-600  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(1) 70 CRI, 4000K, 615mA LIGHTSQUARE WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4069.3 lumens  
Efficiency: N/A  
Efficacy: 119.7 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 - G1

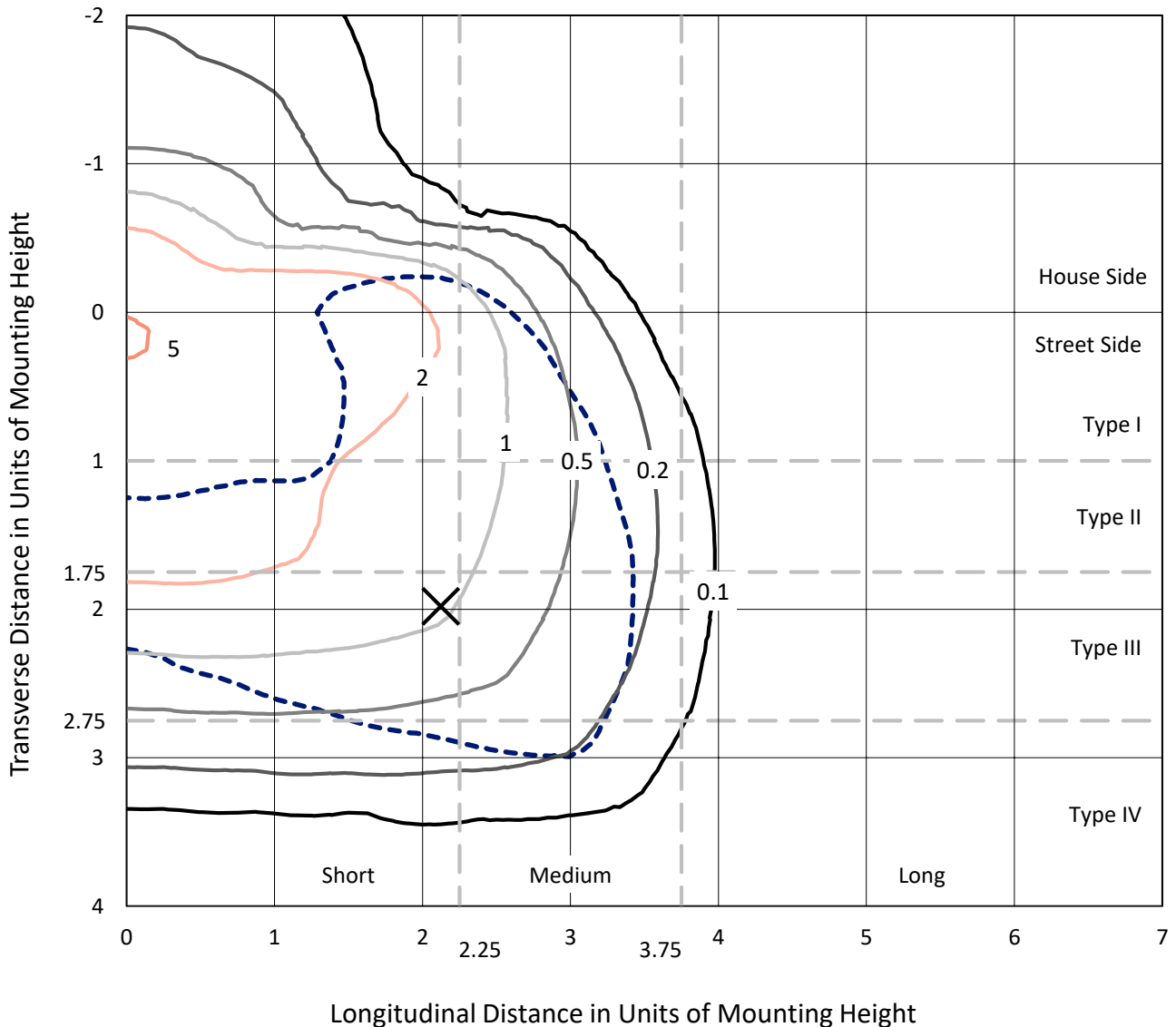
Input Watts (W): 34  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

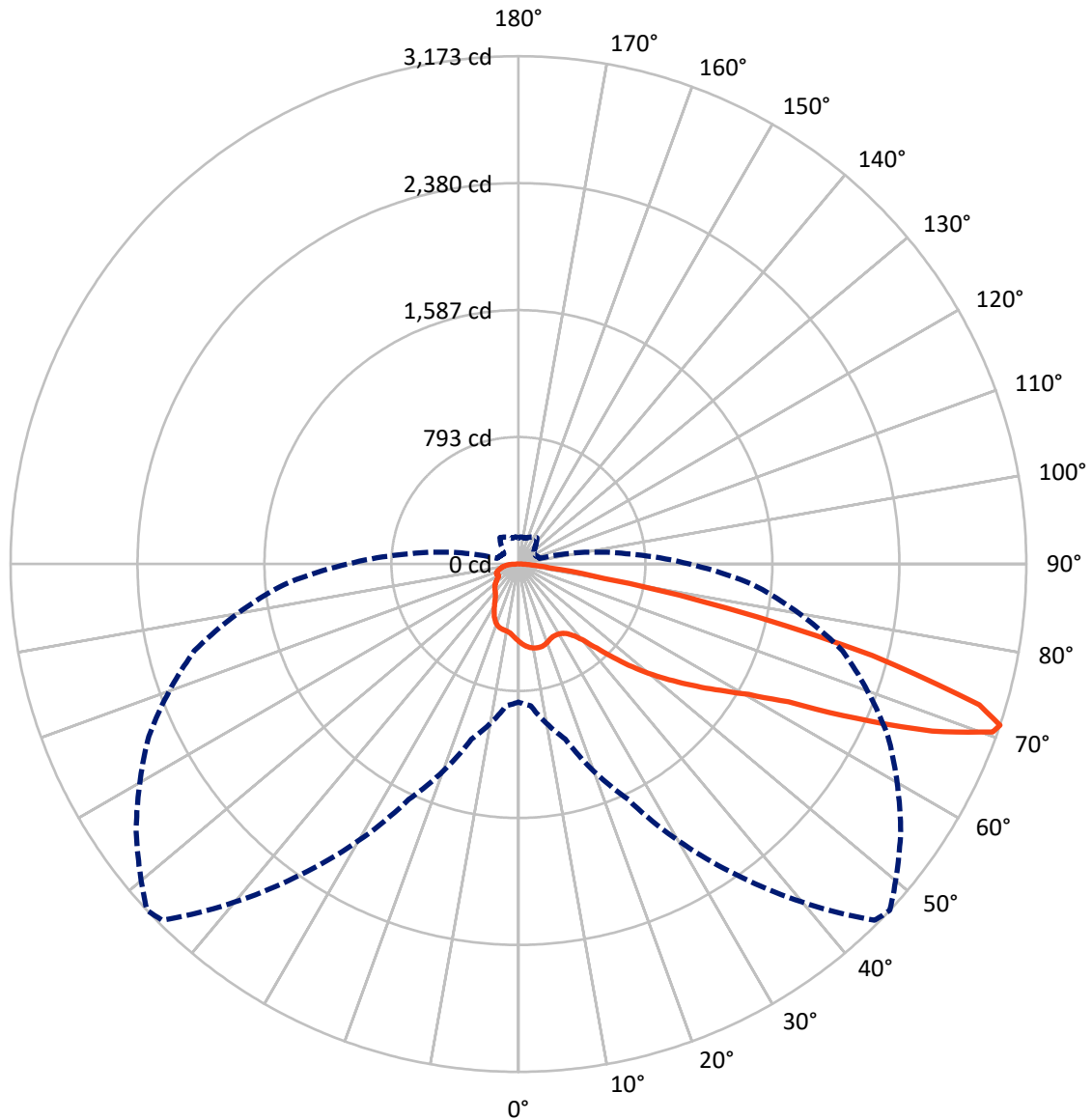
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 5.5 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	872.1	0.0	872.1
	% Fixture	21.4	0.0	21.4
<b>Street Side</b>	Lumens	3197.2	0.0	3197.2
	% Fixture	78.6	0.0	78.6
<b>Total</b>	Lumens	4069.3	0.0	4069.3
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	46.2	1.1
10°-20°	135.2	3.3
20°-30°	200.9	4.9
30°-40°	288.4	7.1
40°-50°	511.3	12.6
50°-60°	875.0	21.5
60°-70°	1242.2	30.5
70°-80°	680.3	16.7
80°-90°	89.8	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°	4069.3	100.0
0°-180°	4069.3	100.0



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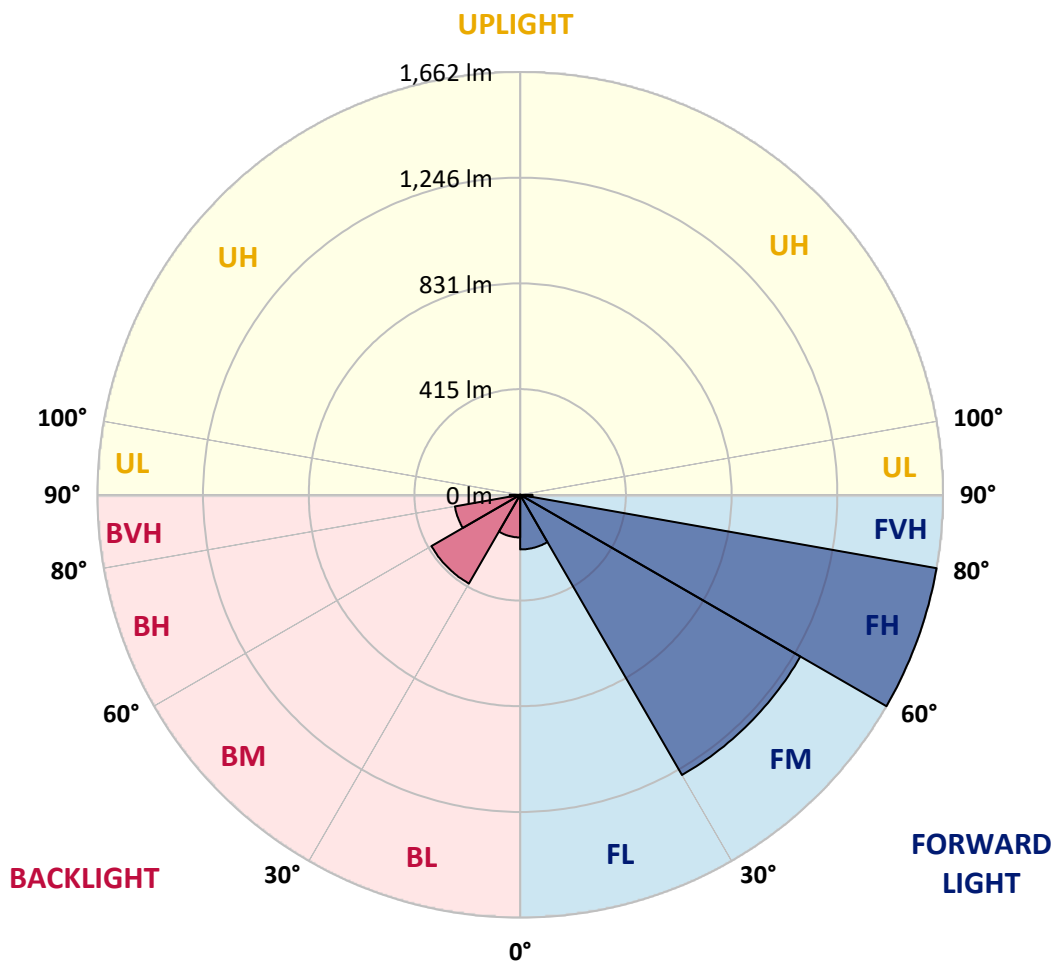
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	214.8	5.3			
FM (30°-60°)	1271.8	31.3			
FH (60°-80°)	1661.9	40.8			G1/1800
FVH (80°-90°)	48.7	1.2			G1/100
BL (0°-30°)	167.5	4.1	B1/500		
BM (30°-60°)	403.0	9.9	B1/1000		
BH (60°-80°)	260.6	6.4	B1/500		G1/500
BVH (80°-90°)	41.1	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-G1**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	484.0	484.0	484.0	484.0	484.0	484.0	484.0	484.0	484.0	484.0	484.0
2.5°	513.4	512.4	512.9	511.1	506.6	501.9	501.9	496.8	491.5	486.3	480.5
5°	545.3	543.8	542.5	536.6	527.9	518.2	516.6	506.6	495.8	485.0	474.4
7.5°	572.0	570.4	566.4	555.9	543.3	528.8	526.9	513.7	499.5	484.5	469.6
10°	591.0	589.9	582.3	568.9	554.0	536.9	533.8	520.3	503.4	484.7	466.0
12.5°	601.5	600.0	590.8	574.9	557.5	540.1	536.9	524.0	504.7	484.2	462.3
15°	597.3	596.5	587.8	571.7	554.3	539.3	536.6	523.4	503.9	482.3	458.9
17.5°	579.4	581.2	574.4	558.5	544.3	533.8	530.8	518.4	500.0	477.8	453.6
20°	554.5	556.7	553.3	537.2	529.0	522.1	520.6	510.6	493.4	471.3	447.2
22.5°	528.3	530.1	530.3	515.3	512.7	510.0	508.7	501.6	487.6	467.3	443.0
25°	510.0	512.1	512.7	499.5	501.0	501.9	501.6	496.5	486.5	467.3	443.6
27.5°	505.2	506.4	505.7	493.7	496.5	501.0	501.3	500.2	490.8	472.6	450.9
30°	521.6	522.1	515.6	497.4	500.2	506.1	506.4	505.7	499.7	486.3	467.6
32.5°	592.3	591.8	569.1	522.1	512.1	514.2	515.1	519.8	520.3	508.9	491.5
35°	699.9	699.6	673.2	593.1	545.8	534.8	535.8	543.3	549.8	542.2	532.1
37.5°	818.3	819.1	803.0	694.4	618.7	572.5	571.4	577.0	588.9	591.5	592.8
40°	949.6	953.6	952.8	810.7	720.7	636.9	626.4	620.0	642.9	657.5	676.2
42.5°	1099.7	1098.6	1099.2	938.3	837.3	738.2	718.6	689.1	715.8	740.7	781.9
45°	1228.7	1232.9	1236.0	1074.1	967.8	853.9	834.1	780.3	804.3	841.8	904.5
47.5°	1358.4	1351.0	1356.7	1225.2	1113.1	986.0	960.4	887.9	910.3	963.1	1058.5
50°	1509.5	1506.1	1479.7	1422.4	1288.7	1119.9	1086.5	1000.2	1033.0	1103.4	1248.7
52.5°	1645.0	1626.6	1606.0	1577.5	1461.5	1255.6	1213.0	1117.1	1177.2	1264.5	1484.7
55°	1694.6	1682.2	1707.0	1743.9	1644.2	1393.7	1346.2	1253.4	1339.9	1448.8	1762.3
57.5°	1747.3	1751.6	1807.5	1882.1	1817.3	1541.1	1489.7	1414.8	1518.5	1655.0	2072.8
60°	1773.7	1790.6	1902.2	2042.2	1981.8	1702.8	1653.5	1600.2	1716.5	1882.8	2382.4
62.5°	1778.2	1800.9	1958.8	2098.4	2208.3	1950.4	1893.5	1835.7	1963.9	2134.7	2606.5
65°	1696.0	1730.7	1953.8	2167.4	2414.8	2364.1	2328.0	2227.3	2295.1	2356.5	2644.7
67.5°	1454.1	1492.1	1760.5	2139.0	2580.4	2793.5	2786.6	2637.9	2550.8	2442.2	2361.3
70°	1067.2	1097.8	1355.7	1828.5	2508.2	3130.5	3142.6	2904.0	2622.3	2260.2	1755.8
71°	863.2	889.5	1132.6	1623.4	2367.3	3147.9	3173.2	2915.8	2548.0	2095.9	1469.9
72.5°	537.2	552.0	752.1	1225.2	2038.4	2968.6	3011.3	2763.9	2313.8	1771.6	1039.0
75°	202.7	208.6	279.0	540.3	1216.8	2230.2	2281.9	2088.9	1625.5	1011.3	434.9
77.5°	108.9	111.8	138.4	224.6	487.6	1278.5	1344.9	1191.4	779.8	353.9	177.8
80°	73.0	74.9	95.7	133.2	224.1	486.8	542.2	478.3	292.0	202.0	126.5
82.5°	47.2	48.3	65.2	87.6	144.7	171.1	195.4	204.1	182.2	144.7	76.5
85°	31.1	31.9	43.0	56.0	89.6	84.4	86.5	113.1	124.2	95.4	39.1
87.5°	17.9	18.4	25.9	28.7	40.3	31.6	34.3	53.8	73.9	62.2	22.4
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°	484.0	484.0	484.0	484.0	484.0	484.0	484.0	484.0	484.0	484.0	484.0
2.5°	477.8	475.8	471.0	468.1	466.8	466.3	465.7	466.8	466.8	466.3	465.1
5°	469.1	465.1	457.3	451.7	448.9	448.1	449.1	450.4	451.2	451.2	450.4
7.5°	462.8	457.1	446.4	438.8	434.3	433.0	435.9	440.7	443.9	445.4	445.7
10°	457.6	449.6	438.0	430.2	426.5	425.9	429.5	435.7	442.2	445.2	445.7
12.5°	452.8	443.9	431.2	423.8	421.1	422.5	427.5	433.0	440.7	444.9	445.2
15°	448.3	439.1	425.6	418.0	417.5	419.5	424.3	428.8	434.5	439.9	439.9
17.5°	443.0	433.0	419.0	411.9	411.9	413.8	417.0	419.3	423.0	428.0	427.7
20°	436.7	426.5	412.1	404.8	403.2	402.1	402.1	402.7	405.8	410.3	411.1
22.5°	432.0	421.5	406.4	397.4	390.3	383.4	380.5	379.5	382.4	386.6	387.7
25°	432.0	421.5	404.6	389.5	372.0	359.0	353.3	351.8	354.7	358.6	360.2
27.5°	439.1	428.5	408.8	382.4	350.5	329.4	322.7	321.5	324.1	327.2	328.9
30°	455.7	445.4	420.8	374.2	326.4	298.8	291.4	290.1	291.4	292.8	294.6
32.5°	483.3	474.6	440.7	366.8	302.2	271.1	262.1	260.0	260.5	260.9	262.4
35°	528.5	524.6	467.1	358.1	279.3	248.4	239.2	235.0	234.7	236.0	237.8
37.5°	597.6	600.0	501.0	345.5	260.2	232.3	223.1	218.9	216.8	219.4	221.5
40°	695.1	700.7	540.3	328.4	244.7	222.8	213.1	209.1	206.2	205.4	206.5
42.5°	821.9	820.4	580.4	306.5	227.8	216.5	206.2	202.0	197.2	191.2	189.9
45°	972.3	949.6	613.9	279.6	208.6	210.4	199.9	194.1	186.7	177.8	176.7
47.5°	1149.8	1087.3	634.5	250.8	190.7	202.5	192.7	183.8	173.0	167.2	166.4
50°	1363.6	1248.4	649.0	221.5	174.6	192.5	182.8	170.9	160.3	158.8	158.5
52.5°	1616.8	1438.6	667.0	195.2	161.9	179.6	172.8	160.6	152.1	152.9	152.9
55°	1886.0	1635.3	667.5	174.3	150.9	164.6	165.3	155.6	149.0	151.6	152.4
57.5°	2131.5	1807.2	615.0	159.6	140.2	152.7	163.0	157.4	152.4	161.6	162.4
60°	2345.7	1939.6	502.1	147.4	131.6	148.2	168.3	168.8	167.8	192.7	194.7
62.5°	2424.0	1940.9	356.5	137.2	126.8	150.9	179.3	180.1	180.1	203.4	206.7
65°	2314.3	1779.2	237.3	131.0	123.7	156.6	188.3	184.8	176.7	192.7	189.0
67.5°	1927.8	1385.0	173.5	127.2	119.2	156.9	196.2	187.5	173.5	187.2	180.9
70°	1324.9	881.3	145.3	123.4	114.0	150.1	200.4	186.7	168.8	174.6	166.1
71°	1066.4	703.3	137.9	122.1	111.8	146.1	200.9	185.7	166.4	170.1	162.4
72.5°	702.6	433.3	129.0	119.2	108.6	139.2	199.6	183.3	163.3	163.5	158.5
75°	277.1	179.6	116.0	112.6	99.6	128.2	193.8	178.3	157.1	151.9	149.8
77.5°	140.0	117.3	102.1	103.4	89.1	116.8	185.7	170.1	148.7	141.6	140.0
80°	102.3	89.1	87.3	89.6	77.2	105.8	175.3	159.0	137.9	145.3	142.2
82.5°	62.2	54.3	68.3	74.1	64.7	94.4	163.3	146.1	124.2	114.5	110.8
85°	29.6	31.9	49.3	54.6	47.8	75.4	149.2	131.9	108.4	93.6	95.2
87.5°	14.5	17.7	28.2	32.7	31.4	55.3	112.6	102.3	85.4	70.4	68.8
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)