

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: P196345

Luminaire Tested: **NAV-AF-01-D-UNV-T4FT-600**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196345  
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-01-D-UNV-T4FT-600  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(1) 70 CRI, 4000K, 615mA LIGHTSQUARE WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4150.1 lumens  
Efficiency: N/A  
Efficacy: 122.1 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B1 - U0 - G1

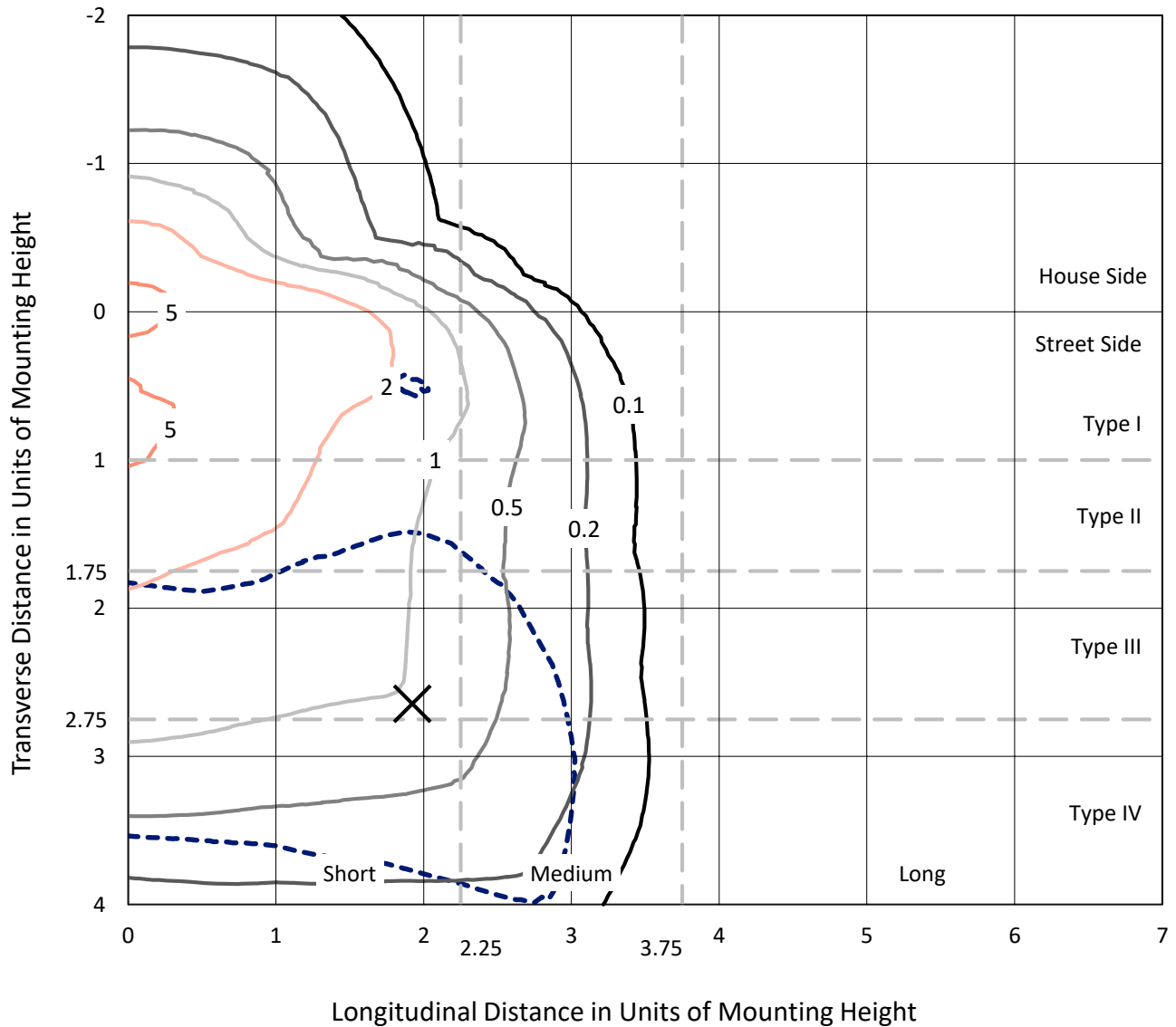
Input Watts (W): 34  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

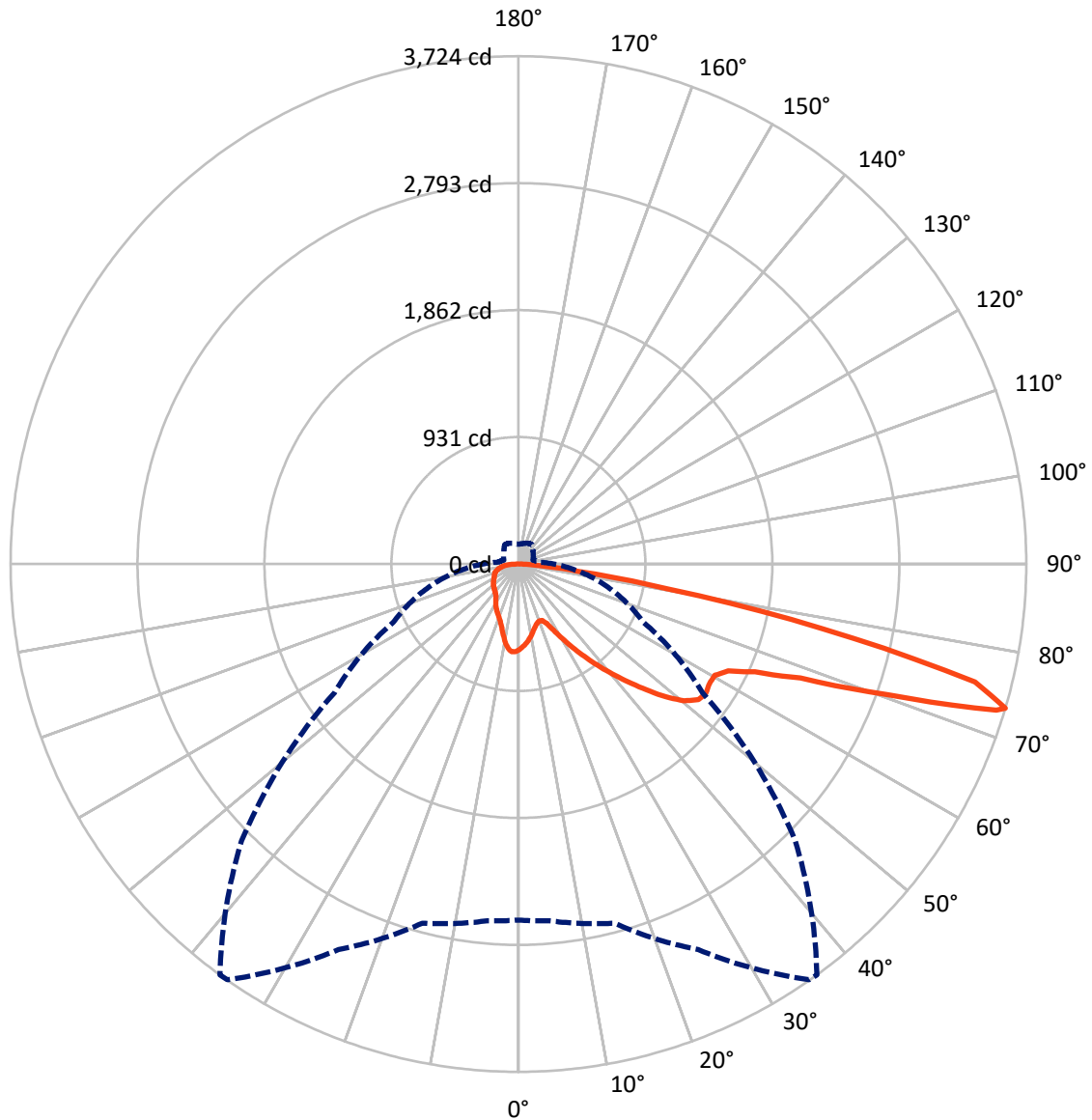
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6.3 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
<b>House Side</b>	Lumens	800.3	0.0	800.3
	% Fixture	19.3	0.0	19.3
<b>Street Side</b>	Lumens	3349.9	0.0	3349.9
	% Fixture	80.7	0.0	80.7
<b>Total</b>	Lumens	4150.1	0.0	4150.1
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	57.1	1.4
10°-20°	143.4	3.5
20°-30°	229.9	5.5
30°-40°	380.3	9.2
40°-50°	588.4	14.2
50°-60°	787.8	19.0
60°-70°	1029.1	24.8
70°-80°	840.6	20.3
80°-90°	93.6	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°	4150.1	100.0
0°-180°	4150.1	100.0



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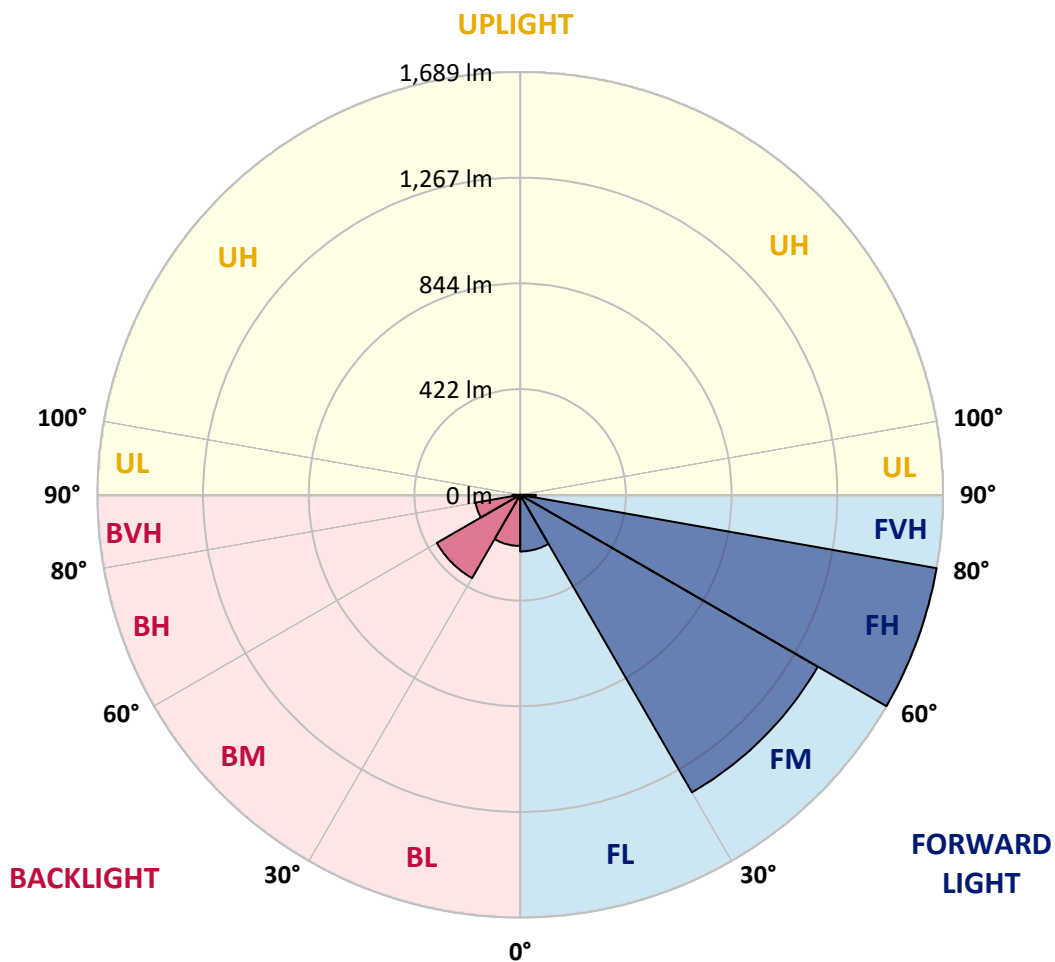
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	226.1	5.4			
FM (30°-60°)	1372.2	33.1			
FH (60°-80°)	1688.8	40.7			G1/1800
FVH (80°-90°)	62.8	1.5			G1/100
BL (0°-30°)	204.3	4.9	B1/500		
BM (30°-60°)	384.3	9.3	B1/1000		
BH (60°-80°)	180.8	4.4	B1/500		G1/500
BVH (80°-90°)	30.8	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 IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	628.6	628.6	628.6	628.6	628.6	628.6	628.6	628.6	628.6	628.6	628.6
2.5°	604.7	606.2	606.5	608.3	608.3	608.0	608.9	612.0	613.6	617.2	620.4
5°	574.8	576.6	577.5	580.6	584.6	584.8	587.8	593.8	599.7	607.8	614.7
7.5°	541.3	543.5	545.5	552.2	557.9	558.5	564.1	573.8	581.4	591.5	603.8
10°	508.9	509.4	511.6	520.0	527.6	528.5	536.3	547.4	557.7	571.6	585.6
12.5°	482.3	483.9	483.3	489.7	496.2	496.7	507.3	521.3	536.3	552.2	568.8
15°	473.0	472.8	467.3	467.0	469.8	470.5	480.7	497.1	513.9	533.5	554.7
17.5°	479.4	477.3	462.8	453.8	451.9	452.5	460.1	478.0	496.0	518.4	544.0
20°	514.1	506.1	472.0	450.4	444.3	444.3	448.8	463.3	483.0	509.1	541.3
22.5°	596.7	584.1	511.6	473.0	451.7	449.6	446.1	457.3	479.2	510.5	552.2
25°	700.6	694.6	584.1	533.5	489.4	482.5	459.8	463.8	487.3	524.8	581.6
27.5°	796.9	786.3	679.2	621.2	559.0	548.5	500.4	484.4	506.8	551.1	624.4
30°	853.0	845.9	777.0	721.7	647.6	634.1	565.4	525.0	541.7	594.6	685.1
32.5°	914.2	910.0	875.1	824.8	743.6	728.0	649.2	591.2	594.8	652.3	758.1
35°	973.5	979.1	959.3	922.4	846.9	832.5	761.8	677.7	660.5	717.2	836.2
37.5°	1044.7	1046.1	1033.6	1009.7	955.5	943.7	885.5	770.0	732.0	786.3	911.6
40°	1186.8	1166.0	1117.5	1098.5	1066.3	1059.0	992.5	854.6	798.4	857.2	982.7
42.5°	1340.6	1308.1	1232.1	1201.0	1188.2	1181.3	1081.7	911.0	860.7	928.1	1052.6
45°	1464.5	1438.2	1363.8	1325.2	1326.9	1315.8	1159.4	961.4	928.1	999.3	1130.7
47.5°	1586.6	1542.5	1459.2	1453.7	1472.1	1455.8	1233.8	1011.8	998.6	1076.9	1208.7
50°	1594.5	1554.4	1520.6	1564.9	1596.6	1576.3	1301.3	1077.7	1071.6	1170.8	1309.5
52.5°	1498.2	1492.5	1543.8	1618.5	1671.0	1652.8	1356.4	1145.4	1146.2	1288.1	1432.0
55°	1463.2	1455.8	1517.5	1609.3	1680.2	1669.4	1397.6	1221.9	1229.1	1430.5	1563.7
57.5°	1522.3	1503.7	1515.9	1591.8	1658.6	1652.3	1440.2	1306.8	1319.7	1594.5	1685.2
60°	1705.5	1667.8	1603.5	1617.7	1659.3	1655.6	1501.4	1401.4	1423.1	1765.4	1762.2
62.5°	1980.0	1937.3	1806.2	1742.9	1733.7	1726.6	1602.5	1517.8	1528.6	1888.8	1717.3
65°	2281.1	2235.2	2079.5	1975.8	1921.5	1906.2	1765.4	1658.0	1590.3	1888.5	1542.8
67.5°	2619.2	2570.7	2415.3	2316.5	2257.7	2231.6	2029.8	1771.4	1570.2	1728.7	1234.6
70°	2965.4	2919.2	2848.0	2882.6	2908.5	2868.7	2446.5	1809.1	1426.3	1355.3	829.0
72.5°	2781.6	2777.9	2831.9	3159.5	3657.6	3665.4	2862.5	1702.6	1101.9	805.6	441.9
73°	2611.0	2626.5	2726.8	3118.6	3721.6	3724.3	2870.7	1647.5	1011.8	694.0	388.1
75°	1352.6	1458.2	1830.0	2528.7	3446.1	3458.5	2530.6	1247.2	603.0	385.6	261.6
77.5°	362.3	357.5	589.6	1231.9	2297.4	2281.1	1599.0	603.8	289.0	241.8	183.5
80°	124.2	125.8	200.7	450.6	1072.4	1110.6	694.0	263.4	190.2	168.5	130.0
82.5°	63.3	65.4	105.0	191.7	448.6	439.1	223.3	155.1	127.4	102.3	72.7
85°	33.8	34.8	57.8	99.4	164.5	166.4	78.6	82.8	80.9	58.0	35.9
87.5°	16.6	17.2	27.7	43.8	60.9	58.8	27.4	35.9	39.8	32.7	19.7
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°	628.6	628.6	628.6	628.6	628.6	628.6	628.6	628.6	628.6	628.6	628.6
2.5°	624.4	624.4	627.8	633.6	637.8	641.8	644.5	648.7	651.0	650.8	650.5
5°	620.2	622.8	629.6	636.8	641.5	644.7	644.7	646.5	646.5	645.8	644.7
7.5°	610.4	614.9	624.9	631.3	632.6	629.1	622.3	617.0	610.4	607.0	605.7
10°	594.8	600.7	613.4	616.2	609.4	597.2	580.6	566.4	553.7	547.9	546.1
12.5°	579.6	587.2	599.0	594.6	578.3	554.5	529.0	509.4	495.2	489.7	487.8
15°	566.9	576.1	585.3	571.4	542.9	509.9	481.7	463.6	452.8	448.6	447.4
17.5°	558.5	569.3	572.4	546.4	506.8	469.8	444.9	433.0	428.2	426.4	425.9
20°	559.0	571.1	563.4	522.1	472.0	434.9	418.2	414.8	414.8	414.8	414.5
22.5°	573.5	584.1	559.8	499.4	438.5	405.3	398.1	401.1	403.1	403.1	402.9
25°	603.5	609.4	562.4	477.5	407.1	379.7	379.9	385.6	387.4	387.4	386.8
27.5°	649.5	644.7	567.2	453.3	376.2	356.5	360.2	365.2	366.5	365.7	365.5
30°	707.0	687.9	571.1	424.8	347.3	334.9	338.1	340.9	339.9	338.1	337.8
32.5°	771.3	732.0	568.8	392.9	321.7	312.5	314.4	315.9	314.4	309.9	309.9
35°	835.0	771.8	555.9	358.0	301.4	290.8	290.6	295.6	295.3	290.0	290.3
37.5°	891.0	803.2	530.8	326.2	284.0	275.1	276.1	279.3	280.8	273.7	272.9
40°	939.8	824.8	495.4	299.0	270.1	270.6	267.6	262.6	260.8	257.6	257.1
42.5°	985.6	839.8	458.0	276.3	262.9	268.9	259.2	247.3	242.3	245.2	247.0
45°	1030.7	856.7	421.9	257.6	253.9	264.2	250.7	237.5	231.8	233.1	235.0
47.5°	1085.9	880.1	378.4	237.5	240.2	255.5	245.5	231.3	222.6	217.3	215.7
50°	1158.4	914.2	321.9	215.9	225.7	246.0	241.0	222.0	212.6	201.9	199.4
52.5°	1249.0	946.3	265.0	198.6	213.8	237.8	233.6	214.1	202.5	189.9	187.7
55°	1339.6	950.8	215.9	183.5	200.4	226.8	224.6	207.8	191.4	181.2	179.0
57.5°	1402.8	908.4	183.0	170.8	187.5	213.1	216.5	200.1	182.2	174.3	173.0
60°	1403.9	806.9	163.0	162.4	177.7	201.2	208.1	191.2	176.4	171.1	170.1
62.5°	1292.3	650.3	150.1	156.1	170.6	191.4	201.7	186.2	175.1	173.0	172.0
65°	1083.2	480.5	139.7	150.3	164.0	183.2	196.4	184.5	174.5	173.8	173.0
67.5°	799.7	329.4	131.0	142.9	156.6	174.8	191.4	182.2	171.3	174.5	173.5
70°	503.1	219.9	122.9	134.5	146.9	165.1	184.8	178.0	167.5	165.6	162.1
72.5°	284.0	159.0	113.1	123.7	134.2	152.1	175.8	170.8	158.5	151.1	147.6
73°	256.6	150.6	110.8	121.0	131.3	149.6	173.8	168.8	155.8	147.6	144.5
75°	187.7	123.2	99.9	110.2	119.2	137.4	163.8	158.3	144.2	134.5	132.4
77.5°	136.1	94.9	85.9	95.2	103.1	120.5	148.7	142.4	128.7	123.4	121.3
80°	98.1	72.0	71.2	80.2	87.1	104.6	132.7	126.0	112.8	128.4	125.0
82.5°	58.5	46.1	52.2	62.2	69.4	87.8	115.2	107.6	94.9	96.0	81.7
85°	27.9	26.1	32.4	40.9	45.9	60.1	96.0	89.9	75.9	62.2	60.9
87.5°	12.4	11.9	15.5	18.2	24.6	36.1	65.7	58.3	55.1	32.9	25.9
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)