

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: P197336

Luminaire Tested: **NAV-AF-02-D-UNV-T4W-8030-800**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P197336  
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-8030-800  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7936 lumens  
Efficiency: N/A  
Efficacy: 93.4 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B2 - U0 - G2

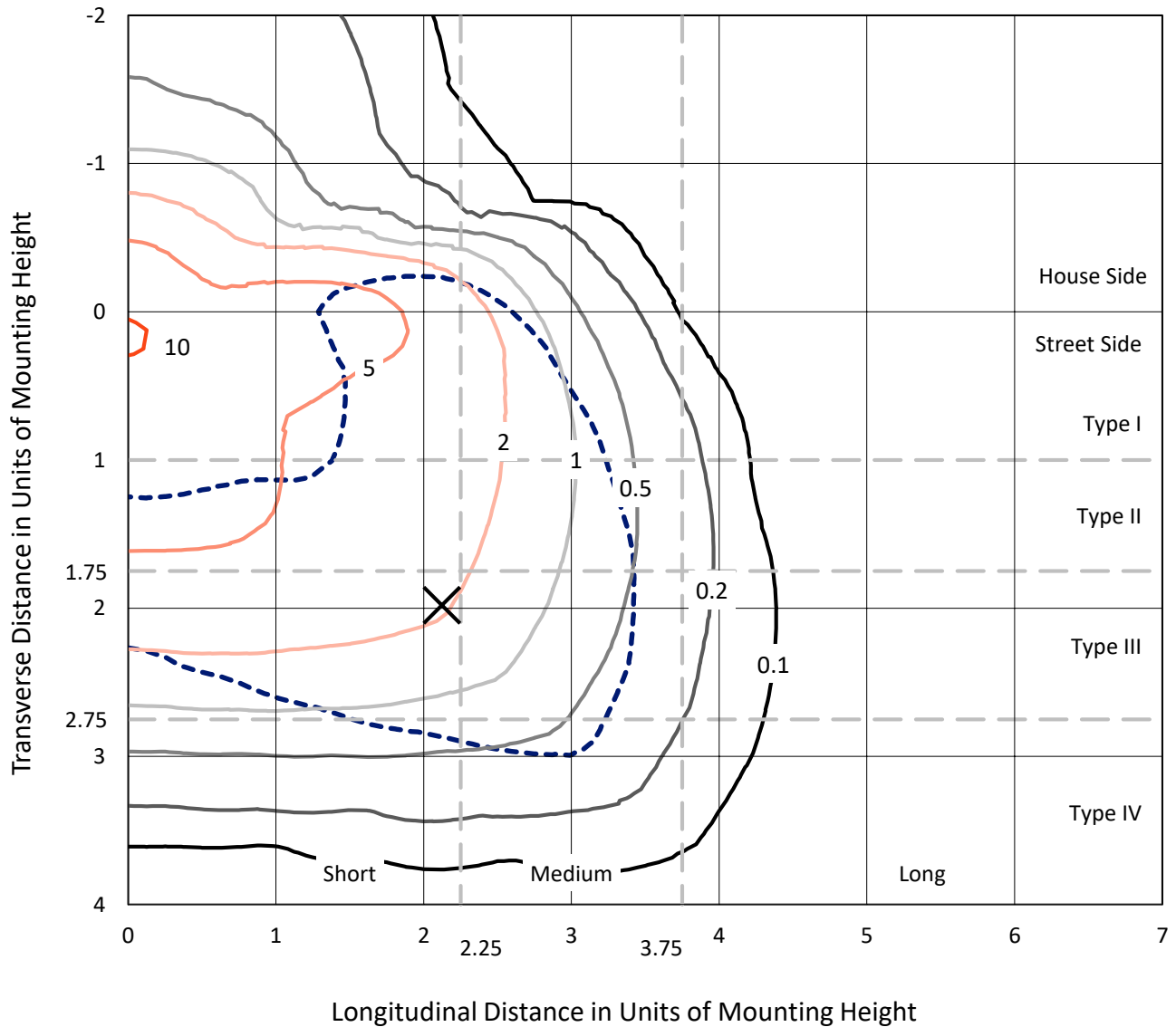
Input Watts (W): 85  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

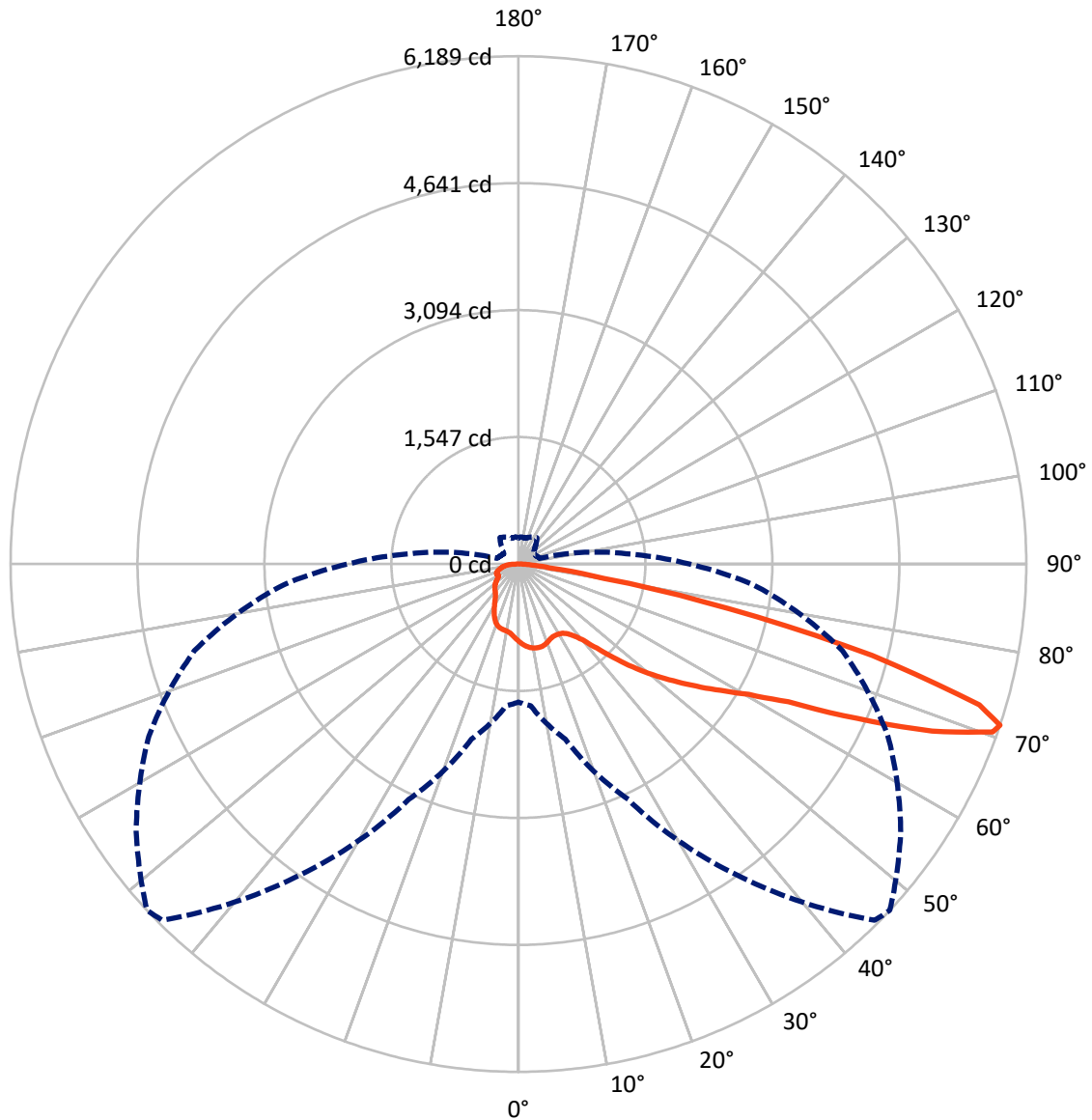
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 10.8 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
<b>House Side</b>	Lumens	1700.8	0.0	1700.8
	% Fixture	21.4	0.0	21.4
<b>Street Side</b>	Lumens	6235.2	0.0	6235.2
	% Fixture	78.6	0.0	78.6
<b>Total</b>	Lumens	7936.0	0.0	7936.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	90.1	1.1
10°-20°	263.6	3.3
20°-30°	391.7	4.9
30°-40°	562.4	7.1
40°-50°	997.2	12.6
50°-60°	1706.4	21.5
60°-70°	2422.5	30.5
70°-80°	1326.8	16.7
80°-90°	175.1	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°	7936.0	100.0
0°-180°	7936.0	100.0



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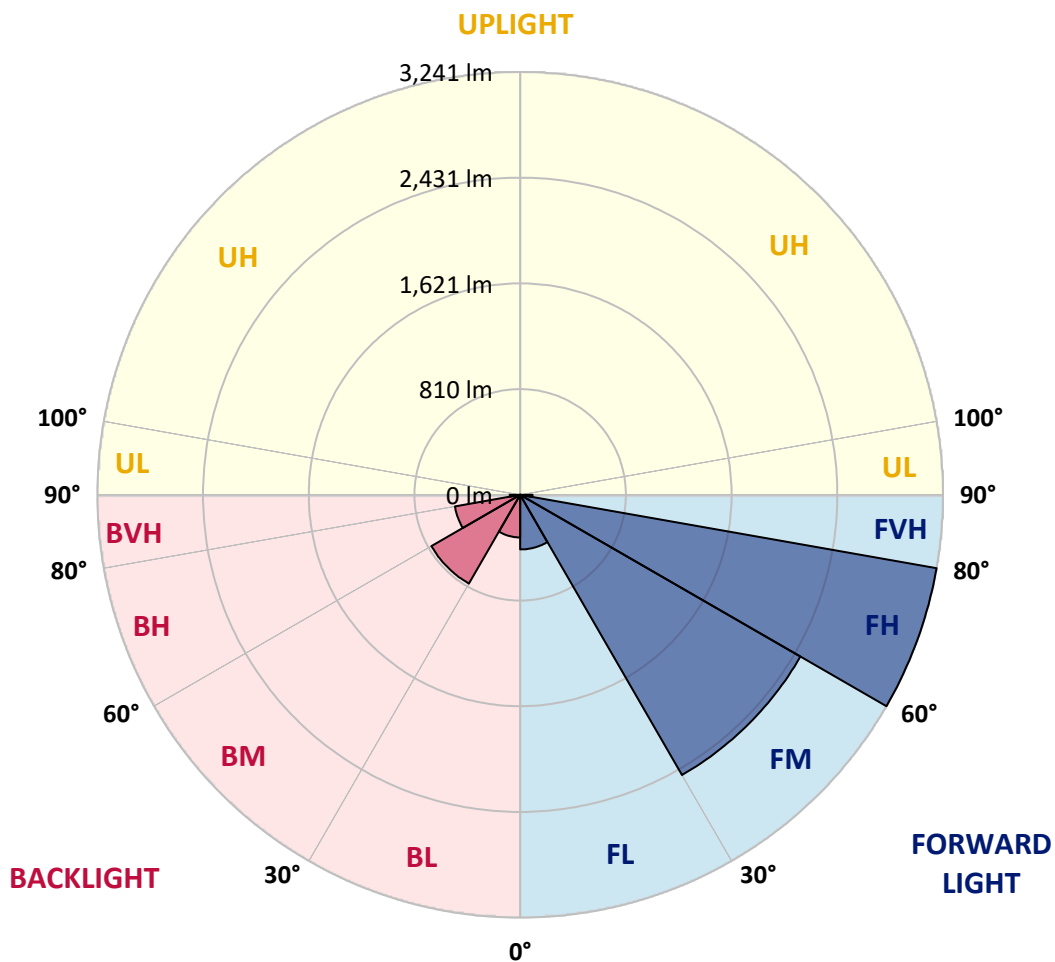
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	418.8	5.3			
FM	(30°-60°)	2480.2	31.3			
FH	(60°-80°)	3241.1	40.8			G2/5000
FVH	(80°-90°)	95.0	1.2			G1/100
BL	(0°-30°)	326.6	4.1	B1/500		
BM	(30°-60°)	785.9	9.9	B1/1000		
BH	(60°-80°)	508.2	6.4	B2/1000		G2/1000
BVH	(80°-90°)	80.1	1.0			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	943.7	943.7	943.7	943.7	943.7	943.7	943.7	943.7	943.7	943.7	943.7
2.5°	1001.3	999.3	1000.3	996.7	988.0	978.7	978.7	968.9	958.6	948.4	937.0
5°	1063.6	1060.5	1057.9	1046.6	1029.6	1010.6	1007.5	988.0	966.9	945.8	925.2
7.5°	1115.5	1112.4	1104.7	1084.1	1059.4	1031.2	1027.6	1001.8	974.1	944.8	916.0
10°	1152.5	1150.5	1135.6	1109.3	1080.5	1047.1	1040.9	1014.7	981.8	945.3	908.8
12.5°	1173.1	1170.0	1152.0	1121.2	1087.2	1053.3	1047.1	1021.9	984.4	944.2	901.6
15°	1164.9	1163.3	1146.4	1115.0	1081.0	1051.7	1046.6	1020.9	982.8	940.6	894.9
17.5°	1129.9	1133.5	1120.1	1089.3	1061.5	1040.9	1035.3	1011.1	975.1	931.9	884.6
20°	1081.6	1085.7	1079.0	1047.6	1031.7	1018.3	1015.2	995.7	962.2	919.0	872.2
22.5°	1030.1	1033.7	1034.2	1004.9	999.8	994.6	992.1	978.2	950.9	911.3	864.0
25°	994.6	998.8	999.8	974.1	977.2	978.7	978.2	968.4	948.9	911.3	865.0
27.5°	985.4	987.4	986.4	962.8	968.4	977.2	977.7	975.6	957.1	921.6	879.4
30°	1017.3	1018.3	1005.4	970.0	975.6	986.9	987.4	986.4	974.6	948.4	911.8
32.5°	1155.1	1154.1	1109.8	1018.3	998.8	1002.9	1004.4	1013.7	1014.7	992.6	958.6
35°	1364.9	1364.4	1313.0	1156.6	1064.6	1043.0	1045.0	1059.4	1072.3	1057.4	1037.8
37.5°	1595.8	1597.4	1566.0	1354.1	1206.5	1116.5	1114.5	1125.3	1148.4	1153.6	1156.1
40°	1852.0	1859.7	1858.1	1580.9	1405.6	1242.0	1221.4	1209.1	1253.8	1282.1	1318.6
42.5°	2144.6	2142.5	2143.6	1829.8	1632.9	1439.5	1401.4	1343.8	1395.8	1444.6	1524.9
45°	2396.1	2404.3	2410.5	2094.7	1887.4	1665.3	1626.7	1521.8	1568.6	1641.6	1764.0
47.5°	2649.1	2634.7	2646.0	2389.4	2170.8	1922.9	1873.0	1731.6	1775.3	1878.2	2064.4
50°	2943.8	2937.1	2885.7	2774.1	2513.3	2184.2	2118.9	1950.7	2014.5	2151.8	2435.2
52.5°	3208.1	3172.1	3132.0	3076.5	2850.2	2448.5	2365.7	2178.5	2295.8	2466.0	2895.5
55°	3304.8	3280.7	3329.0	3401.0	3206.6	2718.0	2625.5	2444.4	2613.1	2825.5	3437.0
57.5°	3407.7	3415.9	3524.9	3670.5	3544.0	3005.5	2905.2	2759.2	2961.3	3227.7	4042.3
60°	3459.1	3492.0	3709.6	3982.7	3864.9	3320.8	3224.6	3120.7	3347.5	3672.0	4646.1
62.5°	3467.9	3512.1	3820.2	4092.2	4306.7	3803.7	3692.6	3580.0	3829.9	4163.2	5083.2
65°	3307.4	3375.3	3810.4	4227.0	4709.4	4610.6	4540.2	4343.7	4475.9	4595.7	5157.8
67.5°	2835.8	2909.9	3433.4	4171.4	5032.3	5447.9	5434.5	5144.4	4974.7	4762.8	4605.0
70°	2081.3	2141.0	2644.0	3566.1	4891.4	6105.1	6128.8	5663.4	5114.1	4408.0	3424.1
71°	1683.3	1734.7	2208.9	3166.0	4616.8	6139.1	6188.5	5686.5	4969.1	4087.6	2866.7
72.5°	1047.6	1076.4	1466.8	2389.4	3975.5	5789.4	5872.7	5390.3	4512.4	3455.0	2026.3
75°	395.5	406.8	544.1	1053.8	2372.9	4349.4	4450.2	4073.7	3170.1	1972.3	848.1
77.5°	212.4	218.1	270.0	438.2	950.9	2493.3	2622.9	2323.6	1520.8	690.2	346.6
80°	142.5	146.1	186.7	259.7	437.1	949.4	1057.4	932.9	569.3	393.9	246.9
82.5°	92.1	94.1	127.0	170.7	282.3	333.8	381.1	398.1	355.4	282.3	149.1
85°	60.7	62.2	83.8	109.0	174.9	164.6	168.7	220.6	242.2	186.2	76.1
87.5°	35.0	36.0	50.4	56.1	78.7	61.7	66.9	104.9	144.0	121.4	43.7
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°	943.7	943.7	943.7	943.7	943.7	943.7	943.7	943.7	943.7	943.7	943.7
2.5°	931.9	927.8	918.5	912.9	910.3	909.3	908.2	910.3	910.3	909.3	907.2
5°	914.9	907.2	891.8	881.0	875.3	873.8	875.8	878.4	880.0	880.0	878.4
7.5°	902.6	891.3	870.7	855.8	847.0	844.5	850.1	859.4	865.6	868.6	869.2
10°	892.3	876.9	854.2	838.8	831.6	830.6	837.8	849.6	862.5	868.1	869.2
12.5°	883.0	865.6	840.9	826.5	821.3	823.9	833.7	844.5	859.4	867.6	868.1
15°	874.3	856.3	830.1	815.2	814.1	818.2	827.5	836.2	847.6	857.8	857.8
17.5°	864.0	844.5	817.2	803.3	803.3	806.9	813.1	817.7	824.9	834.7	834.2
20°	851.7	831.6	803.8	789.4	786.4	784.3	784.3	785.3	791.5	800.2	801.8
22.5°	842.4	821.8	792.5	775.0	761.2	747.8	742.1	740.1	745.7	754.0	756.0
25°	842.4	821.8	788.9	759.6	725.7	699.9	689.1	686.1	691.7	699.4	702.5
27.5°	856.3	835.7	797.2	745.7	683.5	642.3	629.5	626.9	632.1	638.2	641.3
30°	888.7	868.6	820.8	729.8	636.7	582.7	568.3	565.7	568.3	570.9	574.5
32.5°	942.7	925.7	859.4	715.4	589.4	528.7	511.2	507.1	508.1	508.6	511.7
35°	1030.6	1022.9	910.8	698.4	544.6	484.5	466.5	458.2	457.7	460.3	463.9
37.5°	1165.4	1170.0	977.2	673.7	507.6	453.1	435.1	426.9	422.7	427.9	432.0
40°	1355.7	1366.5	1053.8	640.3	477.3	434.6	415.5	407.8	402.2	400.6	402.7
42.5°	1603.0	1600.0	1132.0	597.6	444.3	422.2	402.2	393.9	384.7	372.9	370.3
45°	1896.2	1852.0	1197.3	545.1	406.8	410.4	389.8	378.5	364.1	346.6	344.6
47.5°	2242.3	2120.4	1237.4	489.1	371.8	395.0	375.9	358.5	337.4	326.1	324.5
50°	2659.4	2434.7	1265.7	432.0	340.5	375.4	356.4	333.3	312.7	309.6	309.1
52.5°	3153.1	2805.5	1300.6	380.6	315.8	350.2	336.9	313.2	296.7	298.3	298.3
55°	3678.2	3189.1	1301.7	339.9	294.2	320.9	322.5	303.4	290.6	295.7	297.3
57.5°	4157.0	3524.4	1199.3	311.1	273.6	297.8	317.8	307.0	297.3	315.3	316.8
60°	4574.6	3782.6	979.2	287.5	256.6	289.0	328.1	329.1	327.1	375.9	379.5
62.5°	4727.4	3785.2	695.3	267.4	247.4	294.2	349.7	351.3	351.3	396.5	403.2
65°	4513.4	3469.9	462.9	255.6	241.2	305.5	367.2	360.5	344.6	375.9	368.7
67.5°	3759.5	2701.1	338.4	247.9	232.5	306.0	382.6	365.7	338.4	365.1	352.8
70°	2583.8	1718.8	283.4	240.7	222.2	292.6	390.9	364.1	329.1	340.5	324.0
71°	2079.8	1371.6	269.0	238.1	218.1	284.9	391.9	362.1	324.5	331.7	316.8
72.5°	1370.1	845.0	251.5	232.5	211.9	271.5	389.3	357.4	318.3	318.9	309.1
75°	540.5	350.2	226.3	219.6	194.4	249.9	378.0	347.7	306.5	296.2	292.1
77.5°	273.1	228.9	199.0	201.6	173.8	227.8	362.1	331.7	290.1	276.2	273.1
80°	199.5	173.8	170.2	174.9	150.7	206.2	342.0	310.1	269.0	283.4	277.2
82.5°	121.4	105.9	133.2	144.5	126.0	184.1	318.3	284.9	242.2	223.2	216.0
85°	57.6	62.2	96.2	106.5	93.1	147.1	291.1	257.1	211.4	182.6	185.7
87.5°	28.3	34.5	55.0	63.8	61.2	108.0	219.6	199.5	166.6	137.3	134.2
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)