

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: P197138

Luminaire Tested: **NAV-AF-02-D-UNV-SL4-8030-600**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P197138  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24284)  
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-SL4-8030-600  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 80 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL  
LIGHT ELIMINATOR OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6247 lumens  
Efficiency: N/A  
Efficacy: 94.7 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B1 - U0 - G2

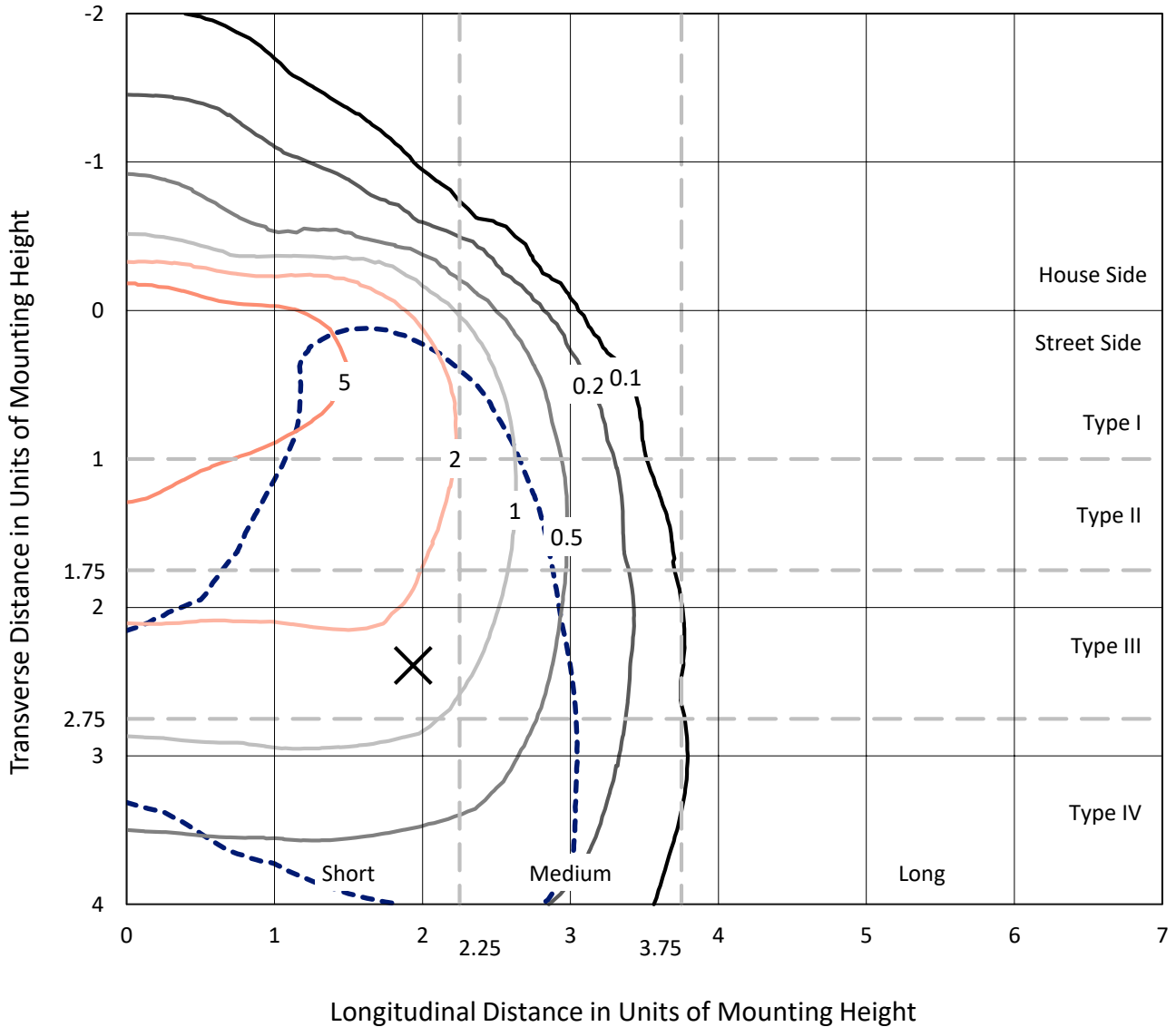
Input Watts (W): 66  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

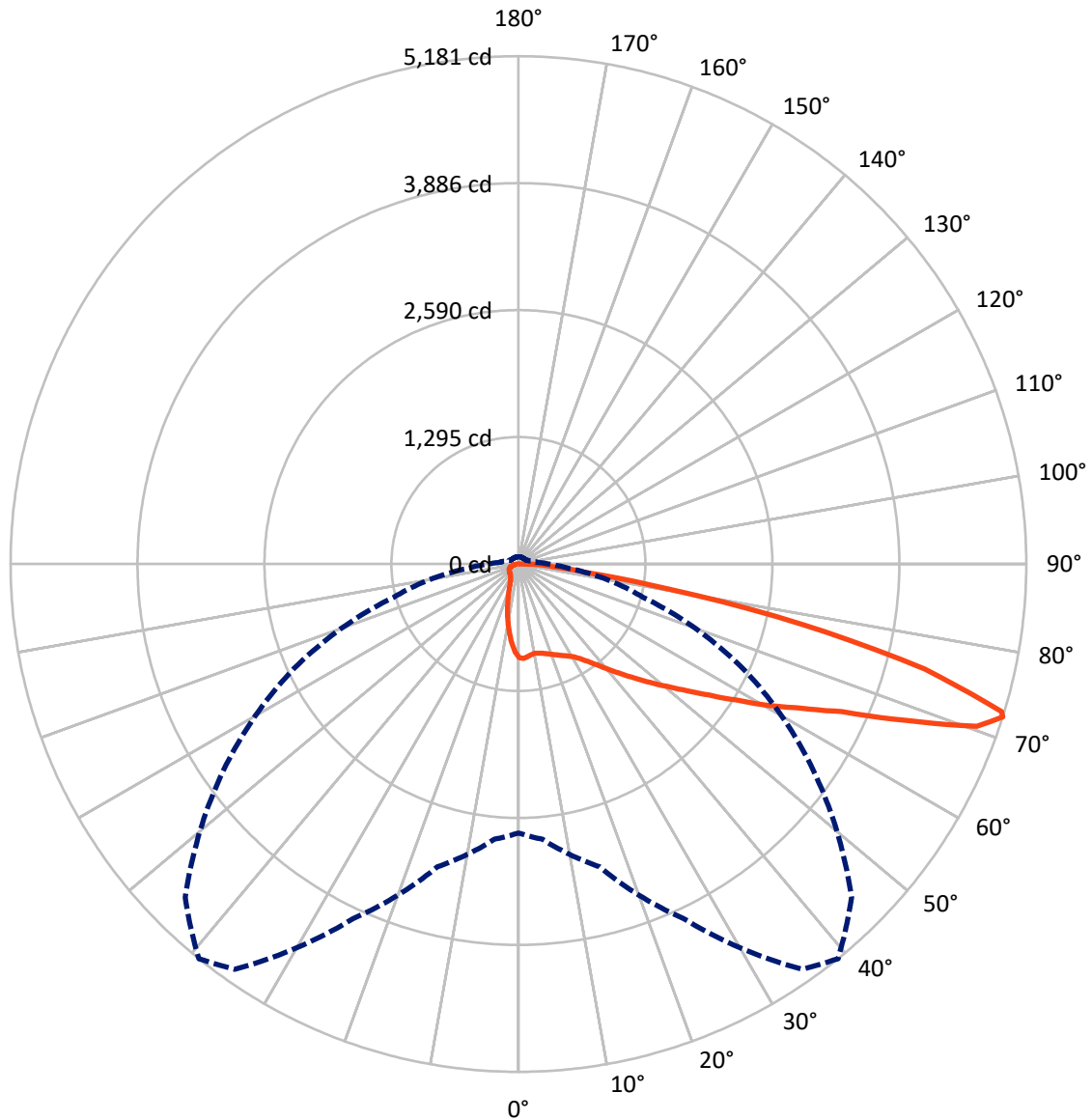
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.5 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral    - - - Horizontal Cone Through 72-Deg Vertical

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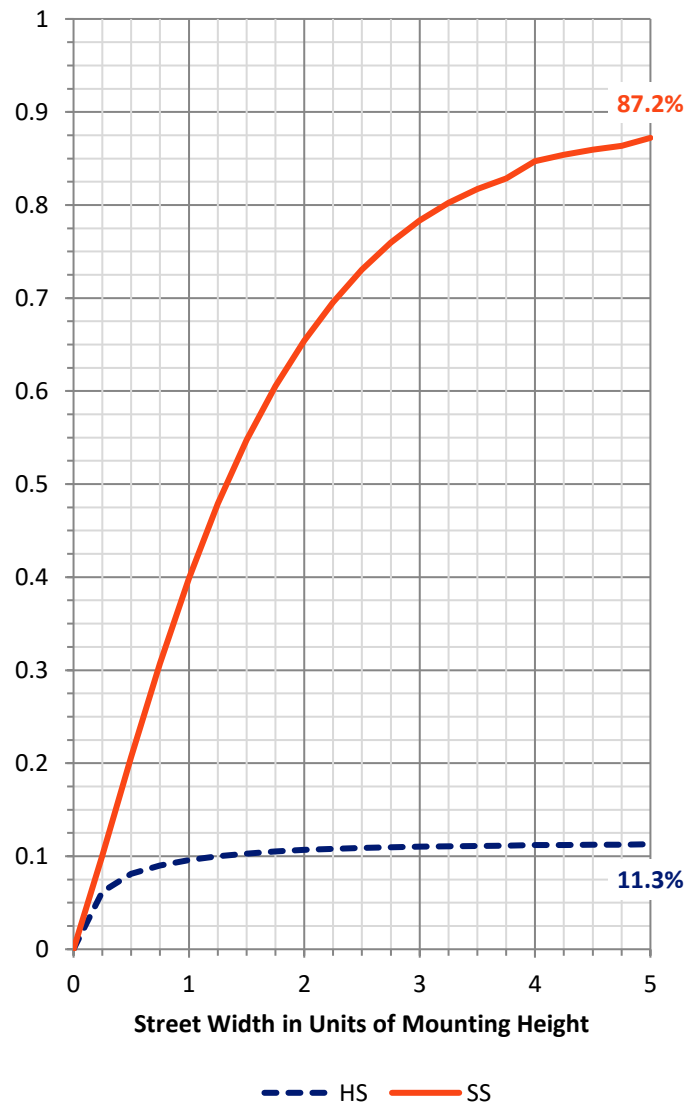
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	716.3	0.0	716.3
	% Fixture	11.5	0.0	11.5
<b>Street Side</b>	Lumens	5530.7	0.0	5530.7
	% Fixture	88.5	0.0	88.5
<b>Total</b>	Lumens	6247.0	0.0	6247.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	82.0	1.3
10°-20°	206.0	3.3
20°-30°	321.0	5.1
30°-40°	494.3	7.9
40°-50°	805.8	12.9
50°-60°	1252.2	20.0
60°-70°	1676.0	26.8
70°-80°	1205.3	19.3
80°-90°	204.3	3.3
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°	6247.0	100.0
0°-180°	6247.0	100.0



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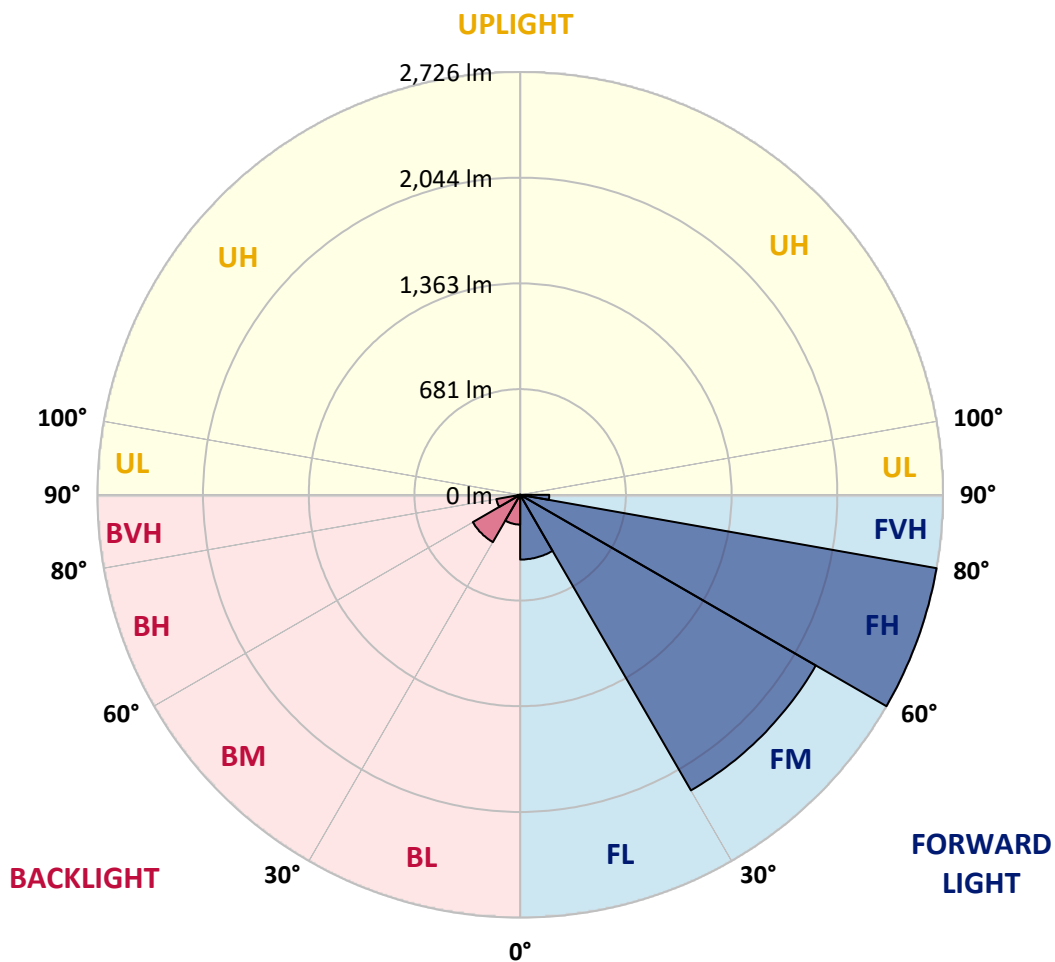
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	417.3	6.7			
FM	(30°-60°)	2200.3	35.2			
FH	(60°-80°)	2725.7	43.6			G2/5000
FVH	(80°-90°)	187.4	3.0			G2/225
BL	(0°-30°)	191.8	3.1	B1/500		
BM	(30°-60°)	352.0	5.6	B1/1000		
BH	(60°-80°)	155.6	2.5	B1/500		G1/500
BVH	(80°-90°)	16.9	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	954.0	954.0	954.0	954.0	954.0	954.0	954.0	954.0	954.0	954.0	954.0
2.5°	974.6	975.0	973.7	970.0	966.6	964.9	962.0	957.0	950.3	945.6	941.9
5°	965.4	966.6	965.8	959.5	953.6	950.3	945.6	938.5	929.7	925.9	917.1
7.5°	958.2	959.1	956.5	949.4	938.1	933.9	925.5	916.3	908.3	902.9	892.4
10°	953.2	954.0	951.9	944.8	932.2	927.2	917.1	907.1	896.6	889.9	878.1
12.5°	946.1	947.7	947.7	944.4	936.0	932.6	922.6	911.7	902.0	894.9	880.2
15°	944.8	946.9	950.7	950.3	947.7	945.2	937.3	926.4	918.0	909.6	891.5
17.5°	955.3	959.9	967.4	970.0	968.3	962.8	953.6	943.5	934.3	926.4	904.1
20°	981.7	984.2	995.5	1000.6	992.2	984.2	972.1	959.1	950.7	944.4	915.9
22.5°	1021.5	1024.9	1034.1	1034.5	1016.9	1007.3	991.8	975.8	967.9	965.4	931.8
25°	1085.3	1084.4	1087.0	1076.5	1044.6	1033.3	1014.4	996.0	990.5	995.5	955.3
27.5°	1161.6	1159.5	1151.5	1124.3	1076.1	1061.4	1038.7	1022.4	1022.4	1034.1	987.2
30°	1249.7	1247.6	1221.6	1175.9	1113.4	1096.6	1072.7	1055.5	1064.3	1087.0	1030.4
32.5°	1342.8	1335.2	1298.7	1237.5	1166.6	1148.2	1125.1	1107.5	1124.3	1162.9	1092.4
35°	1430.4	1426.2	1381.4	1308.8	1235.4	1219.9	1204.0	1182.2	1209.0	1269.0	1180.1
37.5°	1521.0	1517.6	1462.7	1385.5	1319.3	1308.8	1295.4	1280.3	1323.5	1402.3	1298.7
40°	1622.1	1615.3	1546.2	1469.0	1417.0	1412.0	1404.8	1400.6	1470.3	1587.7	1448.9
42.5°	1736.5	1723.5	1634.2	1560.8	1523.5	1527.7	1523.9	1540.7	1647.2	1801.5	1627.5
45°	1867.4	1841.4	1721.9	1658.5	1641.3	1658.1	1666.1	1708.9	1856.5	2048.5	1827.1
47.5°	1989.8	1956.3	1817.9	1764.6	1774.3	1803.2	1825.9	1901.3	2085.9	2292.6	2030.9
50°	2102.6	2064.9	1920.6	1874.5	1921.5	1962.6	2009.5	2116.1	2329.9	2543.8	2218.0
52.5°	2186.1	2158.8	2023.4	1994.4	2090.5	2145.0	2220.1	2354.7	2576.5	2783.2	2384.9
55°	2250.7	2236.0	2123.6	2132.0	2281.7	2359.7	2450.7	2605.4	2837.3	2998.0	2519.1
57.5°	2325.3	2314.4	2238.1	2298.1	2519.1	2617.2	2724.5	2896.5	3085.6	3187.1	2624.3
60°	2404.2	2404.2	2365.6	2498.1	2816.0	2928.3	3035.3	3169.1	3333.0	3357.3	2667.1
62.5°	2463.7	2479.2	2493.1	2711.1	3097.8	3237.4	3354.8	3483.1	3589.2	3441.2	2566.4
65°	2550.1	2583.2	2661.2	2957.3	3446.7	3629.5	3788.0	3895.8	3796.8	3374.5	2238.1
67.5°	2698.5	2747.6	2913.7	3323.8	3980.9	4254.8	4408.7	4222.5	3756.1	2954.8	1714.3
70°	2832.3	2901.5	3185.4	3788.9	4675.4	4959.7	4888.8	4146.6	3271.4	2166.0	1054.7
72°	2743.4	2818.9	3198.0	3991.4	5046.5	5180.7	4807.0	3674.8	2527.9	1321.8	520.0
72.5°	2685.1	2763.5	3157.3	3986.4	5056.6	5152.6	4693.4	3487.3	2294.7	1156.6	420.6
75°	2243.1	2310.2	2714.9	3533.1	4456.0	4279.9	3662.6	2257.0	1054.7	373.6	216.4
77.5°	1464.8	1516.0	1872.0	2447.8	3121.2	2951.8	2229.3	1056.8	395.5	226.9	162.7
80°	736.0	772.4	1001.8	1287.0	1684.5	1549.9	1029.1	511.2	264.6	164.0	127.9
82.5°	512.0	545.6	689.8	657.1	704.1	681.4	483.9	426.5	197.9	103.6	67.1
85°	429.4	464.2	570.7	468.4	383.3	349.3	346.8	403.0	130.8	51.2	56.6
87.5°	374.5	427.3	470.9	342.2	262.9	231.9	255.4	369.5	41.5	28.1	17.2
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°	954.0	954.0	954.0	954.0	954.0	954.0	954.0	954.0	954.0	954.0	954.0
2.5°	935.6	934.3	928.0	918.4	911.3	906.6	897.8	897.4	898.3	890.7	893.6
5°	909.2	904.1	887.8	865.5	847.5	830.3	811.4	805.2	799.7	788.4	789.6
7.5°	881.5	872.7	844.2	807.7	772.9	741.0	709.5	694.0	682.3	667.6	667.6
10°	865.1	851.3	807.7	754.4	699.1	652.5	605.5	577.4	556.9	538.0	536.8
12.5°	864.3	843.3	782.5	709.1	633.2	567.8	503.6	460.5	429.8	407.6	405.5
15°	871.0	841.6	761.5	666.8	571.2	486.0	406.8	351.8	312.8	288.1	285.6
17.5°	876.9	839.5	738.9	622.3	510.8	407.2	319.1	262.1	225.2	205.1	203.0
20°	882.3	834.9	710.0	575.4	444.1	333.4	249.5	203.4	179.1	167.7	166.5
22.5°	890.3	830.7	679.8	522.5	378.7	271.3	205.9	172.8	159.8	154.3	153.5
25°	903.3	831.2	650.4	468.4	318.7	226.0	178.2	157.7	150.5	146.8	146.8
27.5°	922.2	836.2	621.5	413.5	268.0	195.0	161.9	149.7	145.1	142.2	141.3
30°	949.8	845.4	590.9	361.5	227.7	173.6	152.2	144.7	140.9	138.4	138.0
32.5°	990.1	861.8	558.6	314.1	197.1	158.5	145.1	140.5	137.5	135.5	135.0
35°	1050.1	890.7	527.1	273.8	175.3	147.6	139.2	135.5	133.8	132.9	132.5
37.5°	1138.1	937.3	497.4	242.4	161.0	140.5	133.4	131.3	130.4	130.4	130.4
40°	1248.8	998.5	470.5	220.2	153.1	135.0	129.2	127.5	127.5	127.9	127.9
42.5°	1383.4	1075.2	447.5	205.1	148.5	131.3	126.2	125.4	125.0	125.0	125.4
45°	1539.9	1165.8	433.2	193.3	145.1	129.2	124.1	123.7	122.0	121.2	121.2
47.5°	1697.1	1262.7	432.4	186.6	140.9	126.6	122.0	122.0	118.7	117.0	117.4
50°	1843.9	1349.5	441.6	184.9	138.4	122.9	119.9	120.4	115.7	113.6	113.2
52.5°	1962.2	1415.7	452.9	187.0	138.4	119.5	116.2	118.3	113.2	110.7	110.3
55°	2053.6	1461.9	457.1	191.6	140.1	116.6	112.8	116.2	112.4	109.0	109.0
57.5°	2119.0	1476.5	439.1	193.7	142.6	116.2	109.5	115.7	113.6	109.5	109.5
60°	2095.1	1391.4	372.0	185.8	142.2	115.3	106.9	116.6	117.8	113.2	113.2
62.5°	1908.5	1164.1	298.6	167.7	135.0	112.4	104.0	115.7	120.8	119.1	118.3
65°	1553.7	853.8	231.5	146.4	122.9	106.1	97.7	108.2	114.1	115.7	116.2
67.5°	1094.9	540.5	179.9	124.5	107.8	96.9	90.6	95.6	97.7	98.5	100.2
70°	598.8	292.7	143.0	104.8	92.3	87.6	83.0	83.5	82.6	81.8	82.6
72°	300.7	191.2	120.8	91.0	81.8	78.8	76.7	75.5	75.5	74.2	74.6
72.5°	258.7	177.8	116.6	87.6	79.3	76.7	75.1	73.8	73.4	72.5	73.0
75°	172.4	140.9	97.3	73.4	67.5	65.8	66.7	65.4	65.8	65.0	65.4
77.5°	139.2	121.2	82.6	62.1	57.9	55.4	57.0	57.5	58.3	57.5	57.0
80°	116.6	103.2	69.2	51.2	48.2	46.1	47.0	49.9	50.3	47.8	47.4
82.5°	75.5	83.0	54.5	39.8	36.9	36.1	38.2	41.1	41.9	38.6	37.7
85°	63.3	66.7	39.4	27.3	24.3	23.5	27.7	30.6	32.7	29.4	28.5
87.5°	17.6	32.7	19.3	13.0	10.9	10.9	13.4	15.9	18.9	19.3	19.3
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)