

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: P196669

Luminaire Tested: **NAV-AF-01-D-UNV-SL4-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196669
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-01-D-UNV-SL4-7030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 3000K, 1050mA LIGHTSQUARE 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: 5636.7 lumens
Efficiency: N/A
Efficacy: 95.5 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 - G2

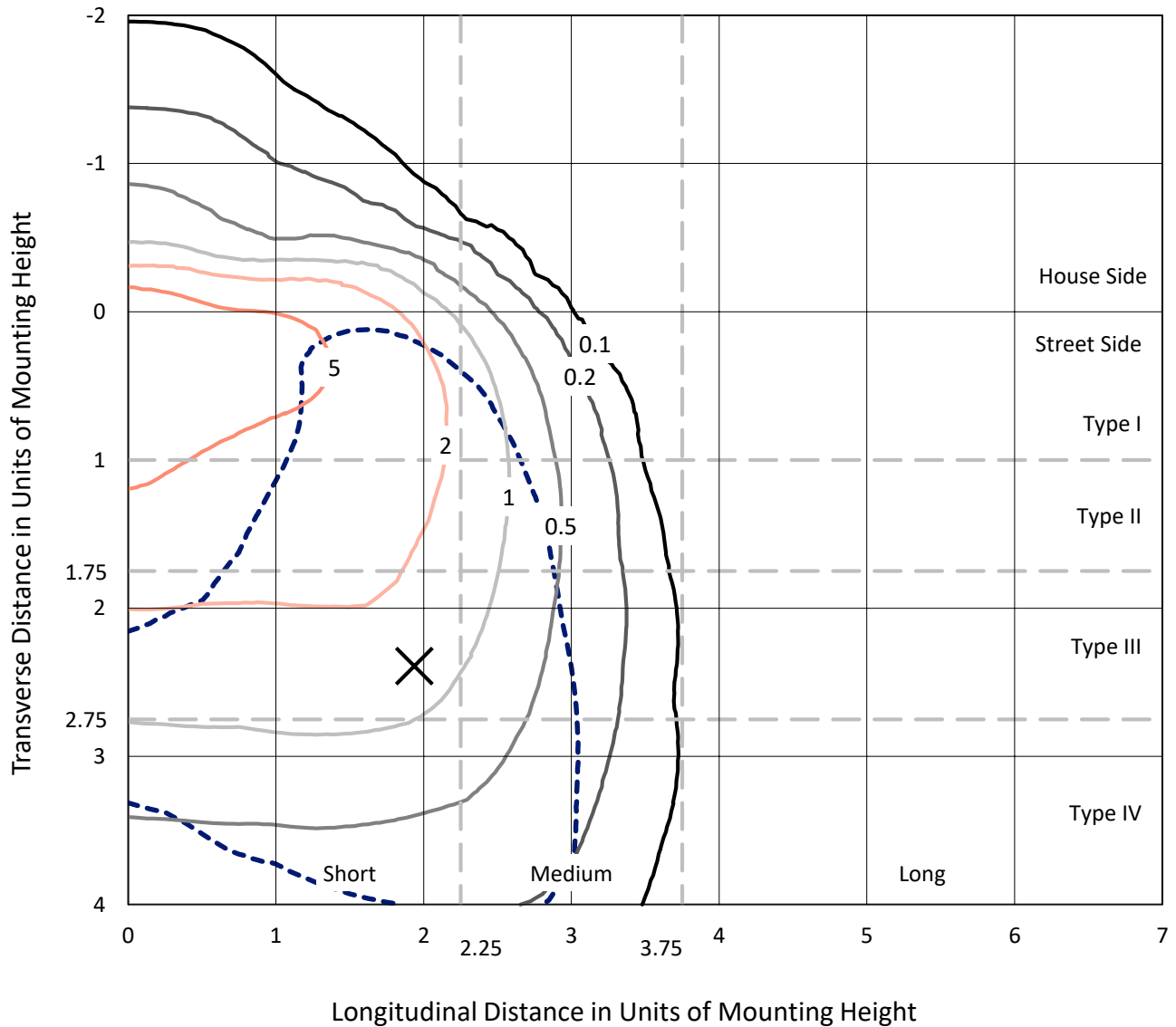
Input Watts (W): 59
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

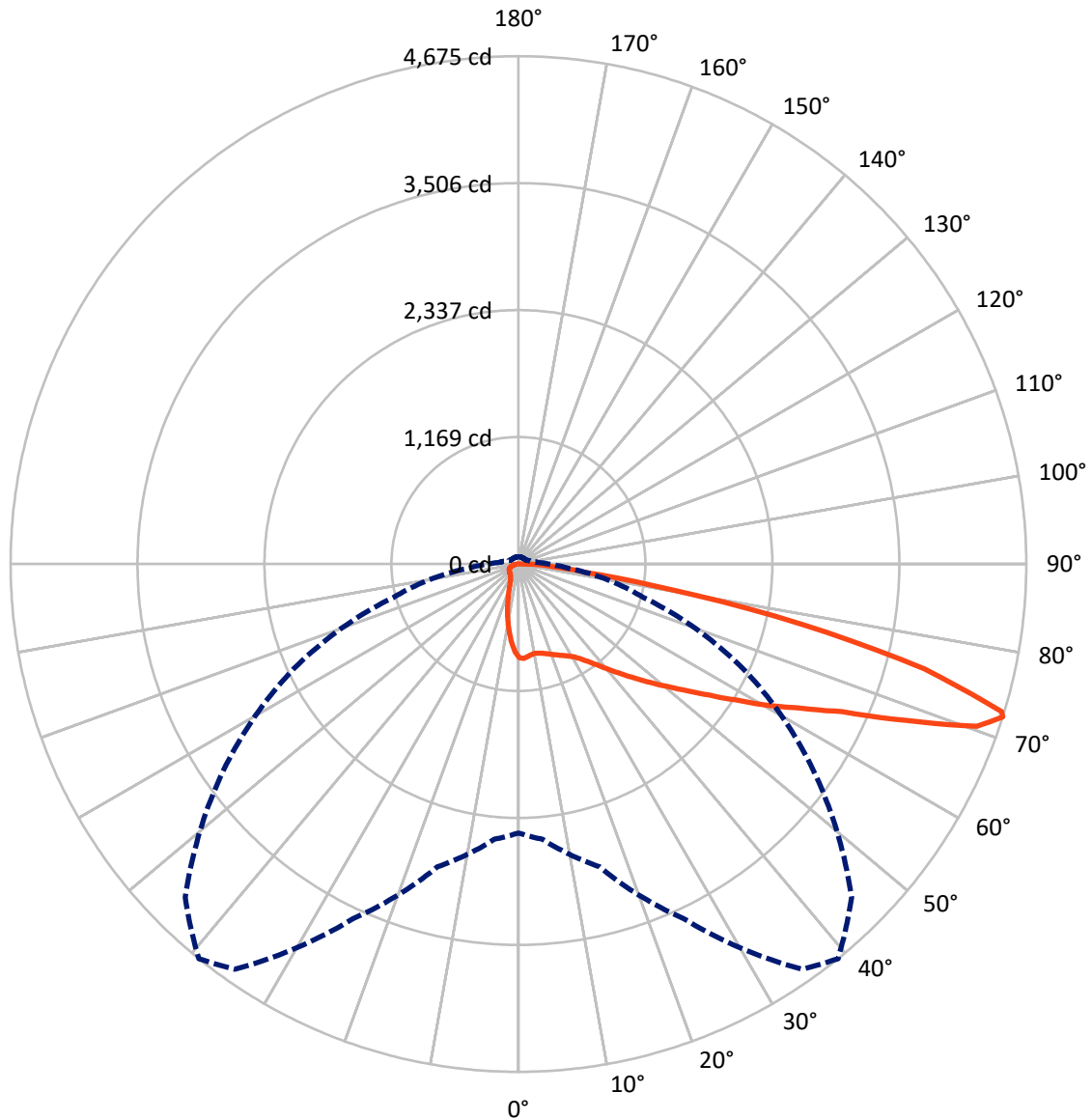
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 8.6 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
House Side	Lumens	646.3	0.0	646.3
	% Fixture	11.5	0.0	11.5
Street Side	Lumens	4990.4	0.0	4990.4
	% Fixture	88.5	0.0	88.5
Total	Lumens	5636.7	0.0	5636.7
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	74.0	1.3
10°-20°	185.9	3.3
20°-30°	289.7	5.1
30°-40°	446.0	7.9
40°-50°	727.1	12.9
50°-60°	1129.9	20.0
60°-70°	1512.3	26.8
70°-80°	1087.5	19.3
80°-90°	184.4	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°	5636.7	100.0
0°-180°	5636.7	100.0



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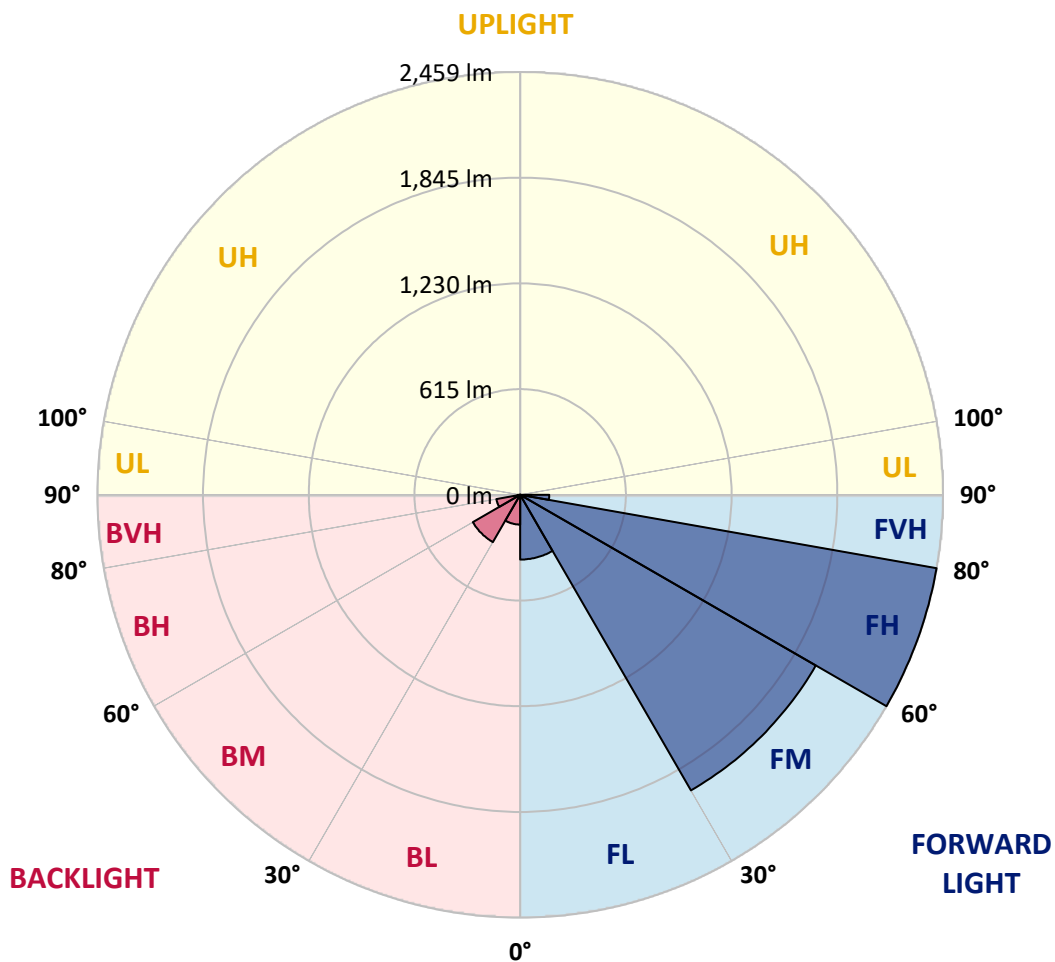
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	376.5	6.7			
FM	(30°-60°)	1985.4	35.2			
FH	(60°-80°)	2459.4	43.6			G2/5000
FVH	(80°-90°)	169.1	3.0			G2/225
BL	(0°-30°)	173.0	3.1	B1/500		
BM	(30°-60°)	317.6	5.6	B1/1000		
BH	(60°-80°)	140.4	2.5	B1/500		G1/500
BVH	(80°-90°)	15.2	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°	860.9	860.9	860.9	860.9	860.9	860.9	860.9	860.9	860.9	860.9	860.9
2.5°	879.3	879.7	878.6	875.1	872.2	870.7	868.1	863.4	857.4	853.2	849.8
5°	871.1	872.2	871.5	865.8	860.4	857.4	853.2	846.9	838.9	835.5	827.5
7.5°	864.6	865.4	863.0	856.7	846.4	842.6	835.1	826.8	819.6	814.6	805.2
10°	860.1	860.9	858.9	852.6	841.2	836.6	827.5	818.5	808.9	802.9	792.3
12.5°	853.7	855.2	855.2	852.1	844.6	841.6	832.4	822.6	813.9	807.4	794.2
15°	852.6	854.4	857.8	857.4	855.2	852.9	845.6	835.9	828.3	820.7	804.4
17.5°	861.9	866.1	873.0	875.1	873.6	868.7	860.4	851.3	843.1	835.9	815.8
20°	885.8	888.1	898.3	902.8	895.3	888.1	877.2	865.4	857.8	852.1	826.4
22.5°	921.7	924.8	933.1	933.5	917.6	908.9	894.9	880.5	873.3	871.1	840.7
25°	979.3	978.5	980.8	971.4	942.6	932.3	915.3	898.6	893.7	898.3	861.9
27.5°	1048.2	1046.2	1039.0	1014.5	971.0	957.6	937.2	922.4	922.4	933.1	890.7
30°	1127.5	1125.7	1102.2	1061.0	1004.6	989.5	967.9	952.4	960.4	980.8	929.7
32.5°	1211.5	1204.8	1171.8	1116.6	1052.7	1036.0	1015.2	999.2	1014.5	1049.2	985.7
35°	1290.7	1286.8	1246.4	1181.0	1114.8	1100.7	1086.4	1066.7	1090.9	1145.0	1064.7
37.5°	1372.4	1369.3	1319.9	1250.2	1190.4	1181.0	1168.8	1155.2	1194.2	1265.3	1171.8
40°	1463.6	1457.5	1395.1	1325.5	1278.6	1274.1	1267.6	1263.8	1326.6	1432.6	1307.3
42.5°	1566.9	1555.2	1474.6	1408.4	1374.7	1378.5	1375.0	1390.3	1486.3	1625.6	1468.6
45°	1685.0	1661.5	1553.6	1496.6	1481.0	1496.1	1503.3	1541.8	1675.1	1848.4	1648.6
47.5°	1795.4	1765.2	1640.3	1592.2	1600.9	1627.1	1647.5	1715.6	1882.1	2068.6	1832.5
50°	1897.2	1863.2	1733.0	1691.4	1733.7	1770.9	1813.2	1909.3	2102.2	2295.3	2001.3
52.5°	1972.5	1947.9	1825.7	1799.6	1886.3	1935.4	2003.2	2124.6	2324.8	2511.4	2151.9
55°	2030.8	2017.6	1916.2	1923.7	2058.8	2129.1	2211.3	2350.9	2560.2	2705.0	2272.9
57.5°	2098.1	2088.3	2019.4	2073.5	2272.9	2361.5	2458.4	2613.5	2784.2	2875.7	2367.9
60°	2169.3	2169.3	2134.5	2254.0	2540.9	2642.2	2738.7	2859.5	3007.4	3029.3	2406.6
62.5°	2223.0	2237.0	2249.5	2446.2	2795.1	2921.1	3027.0	3142.9	3238.6	3105.0	2315.8
65°	2301.0	2330.8	2401.2	2668.3	3109.9	3274.9	3417.9	3515.2	3426.0	3044.8	2019.4
67.5°	2435.0	2479.2	2629.0	2999.0	3592.0	3839.1	3977.9	3810.0	3389.2	2666.2	1546.8
70°	2555.6	2618.1	2874.2	3418.7	4218.6	4475.2	4411.3	3741.5	2951.7	1954.3	951.6
72°	2475.4	2543.4	2885.5	3601.4	4553.5	4674.5	4337.4	3315.8	2280.9	1192.7	469.2
72.5°	2422.9	2493.6	2848.8	3597.0	4562.5	4649.2	4234.9	3146.6	2070.5	1043.5	379.5
75°	2024.0	2084.5	2449.7	3187.8	4020.7	3861.8	3304.8	2036.5	951.6	337.2	195.2
77.5°	1321.7	1367.8	1689.1	2208.6	2816.2	2663.4	2011.5	953.5	356.8	204.8	146.9
80°	664.1	697.0	904.0	1161.2	1520.1	1398.5	928.6	461.3	238.7	147.9	115.4
82.5°	462.0	492.3	622.4	592.9	635.4	614.9	436.7	384.8	178.6	93.4	60.5
85°	387.5	418.9	514.9	422.7	345.8	315.2	312.9	363.7	118.1	46.2	51.2
87.5°	337.9	385.5	424.9	308.7	237.2	209.2	230.4	333.3	37.4	25.3	15.6
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°	860.9	860.9	860.9	860.9	860.9	860.9	860.9	860.9	860.9	860.9	860.9
2.5°	844.1	843.1	837.4	828.6	822.1	818.1	810.1	809.7	810.4	803.7	806.4
5°	820.3	815.8	801.1	780.9	764.7	749.2	732.1	726.5	721.5	711.4	712.5
7.5°	795.4	787.4	761.6	728.8	697.4	668.5	640.3	626.3	615.6	602.3	602.3
10°	780.6	768.1	728.8	680.6	630.8	588.8	546.4	521.0	502.5	485.4	484.3
12.5°	779.9	760.9	706.1	639.8	571.3	512.3	454.4	415.5	387.9	367.7	365.9
15°	785.9	759.5	687.1	601.6	515.3	438.5	367.0	317.5	282.3	259.9	257.7
17.5°	791.1	757.5	666.7	561.5	460.8	367.4	287.9	236.4	203.2	184.9	183.1
20°	796.2	753.4	640.6	519.1	400.8	300.8	225.2	183.5	161.6	151.4	150.2
22.5°	803.3	749.6	613.4	471.5	341.7	244.8	185.7	155.9	144.1	139.2	138.5
25°	815.1	749.9	586.8	422.7	287.6	204.0	160.8	142.2	135.8	132.4	132.4
27.5°	832.1	754.6	560.7	373.1	241.8	175.9	146.1	135.1	130.9	128.3	127.5
30°	857.0	762.8	533.1	326.1	205.5	156.7	137.3	130.6	127.2	124.9	124.4
32.5°	893.4	777.6	504.0	283.4	177.9	143.0	130.9	126.7	124.1	122.3	121.9
35°	947.5	803.7	475.6	247.0	158.2	133.2	125.6	122.3	120.7	119.9	119.5
37.5°	1026.9	845.6	448.7	218.7	145.4	126.7	120.3	118.4	117.7	117.7	117.7
40°	1126.8	901.0	424.6	198.7	138.1	121.9	116.6	115.0	115.0	115.4	115.4
42.5°	1248.3	970.2	403.7	184.9	134.0	118.4	113.8	113.1	112.7	112.7	113.1
45°	1389.4	1051.9	390.8	174.5	130.9	116.6	112.0	111.7	110.2	109.4	109.4
47.5°	1531.3	1139.3	390.2	168.4	127.2	114.2	110.2	110.2	107.1	105.6	106.0
50°	1663.8	1217.5	398.5	166.8	124.9	110.9	108.1	108.6	104.5	102.6	102.1
52.5°	1770.4	1277.5	408.6	168.8	124.9	107.8	104.8	106.7	102.1	99.9	99.5
55°	1852.9	1319.1	412.5	172.9	126.4	105.2	101.8	104.8	101.4	98.4	98.4
57.5°	1911.9	1332.3	396.2	174.9	128.6	104.8	98.8	104.5	102.6	98.8	98.8
60°	1890.4	1255.5	335.7	167.6	128.3	104.1	96.4	105.2	106.3	102.1	102.1
62.5°	1722.0	1050.4	269.5	151.4	121.9	101.4	93.9	104.5	108.9	107.5	106.7
65°	1401.9	770.4	208.9	132.1	110.9	95.7	88.2	97.6	102.9	104.5	104.8
67.5°	987.9	487.8	162.4	112.4	97.2	87.4	81.7	86.4	88.2	88.9	90.4
70°	540.3	264.1	129.0	94.6	83.2	79.1	75.0	75.3	74.6	73.8	74.6
72°	271.3	172.5	108.9	82.2	73.8	71.1	69.3	68.1	68.1	66.9	67.3
72.5°	233.5	160.4	105.2	79.1	71.6	69.3	67.7	66.6	66.2	65.4	65.9
75°	155.4	127.2	87.7	66.2	60.9	59.4	60.2	59.0	59.4	58.7	59.0
77.5°	125.6	109.4	74.6	56.0	52.2	49.9	51.5	51.8	52.6	51.8	51.5
80°	105.2	93.1	62.4	46.2	43.4	41.6	42.4	45.1	45.5	43.1	42.7
82.5°	68.1	75.0	49.1	35.9	33.4	32.6	34.4	37.0	37.8	34.9	34.1
85°	57.2	60.2	35.6	24.6	22.0	21.2	25.0	27.7	29.5	26.4	25.6
87.5°	15.9	29.5	17.4	11.7	9.9	9.9	12.1	14.4	17.1	17.4	17.4
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)