

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: P195938

Luminaire Tested: **NAV-AF-02-D-UNV-5NQ-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195938
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24130)
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-5NQ-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 4000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V NARROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8439.3 lumens
Efficiency: N/A
Efficacy: 127.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B3 - U0 - G1

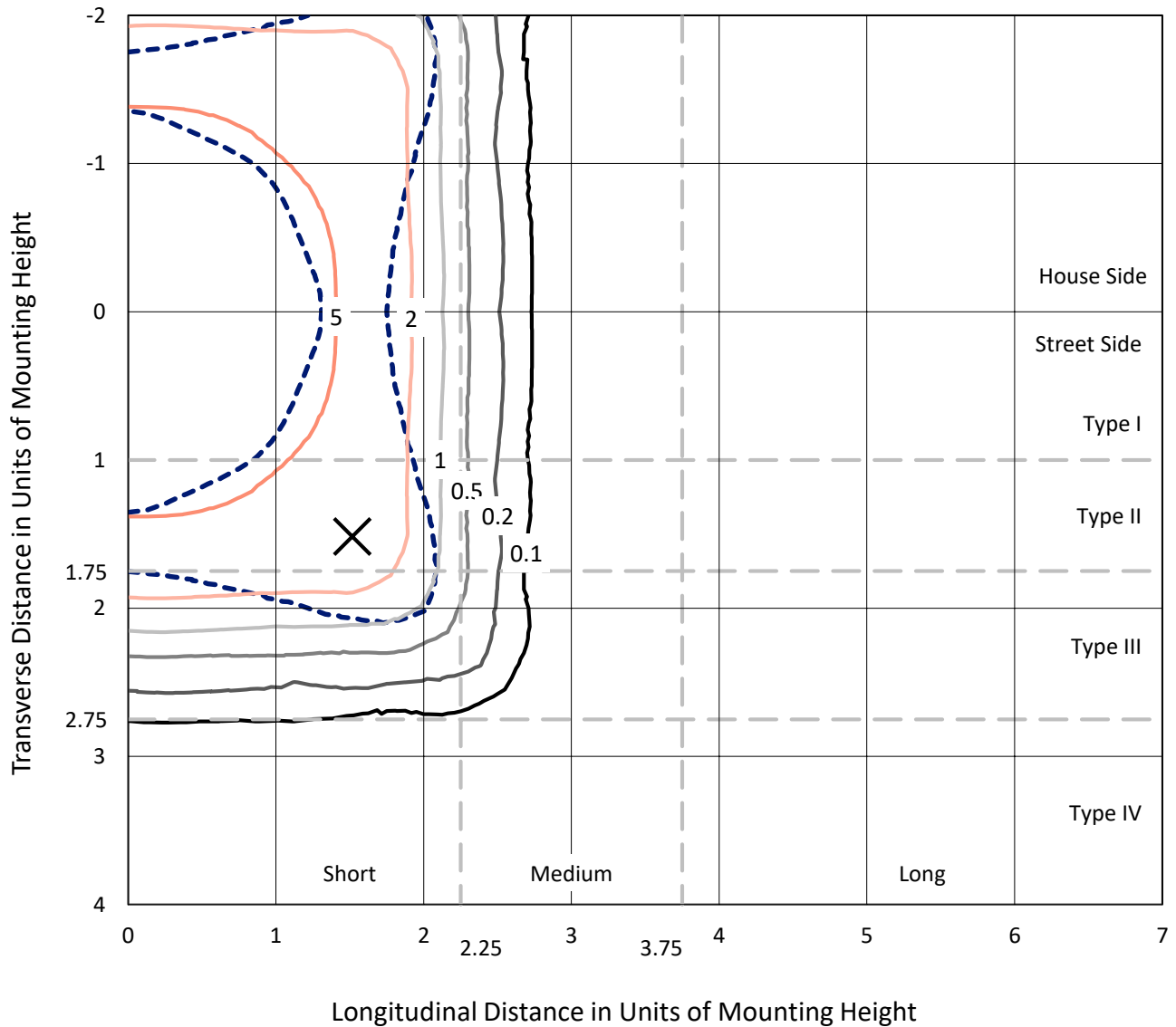
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

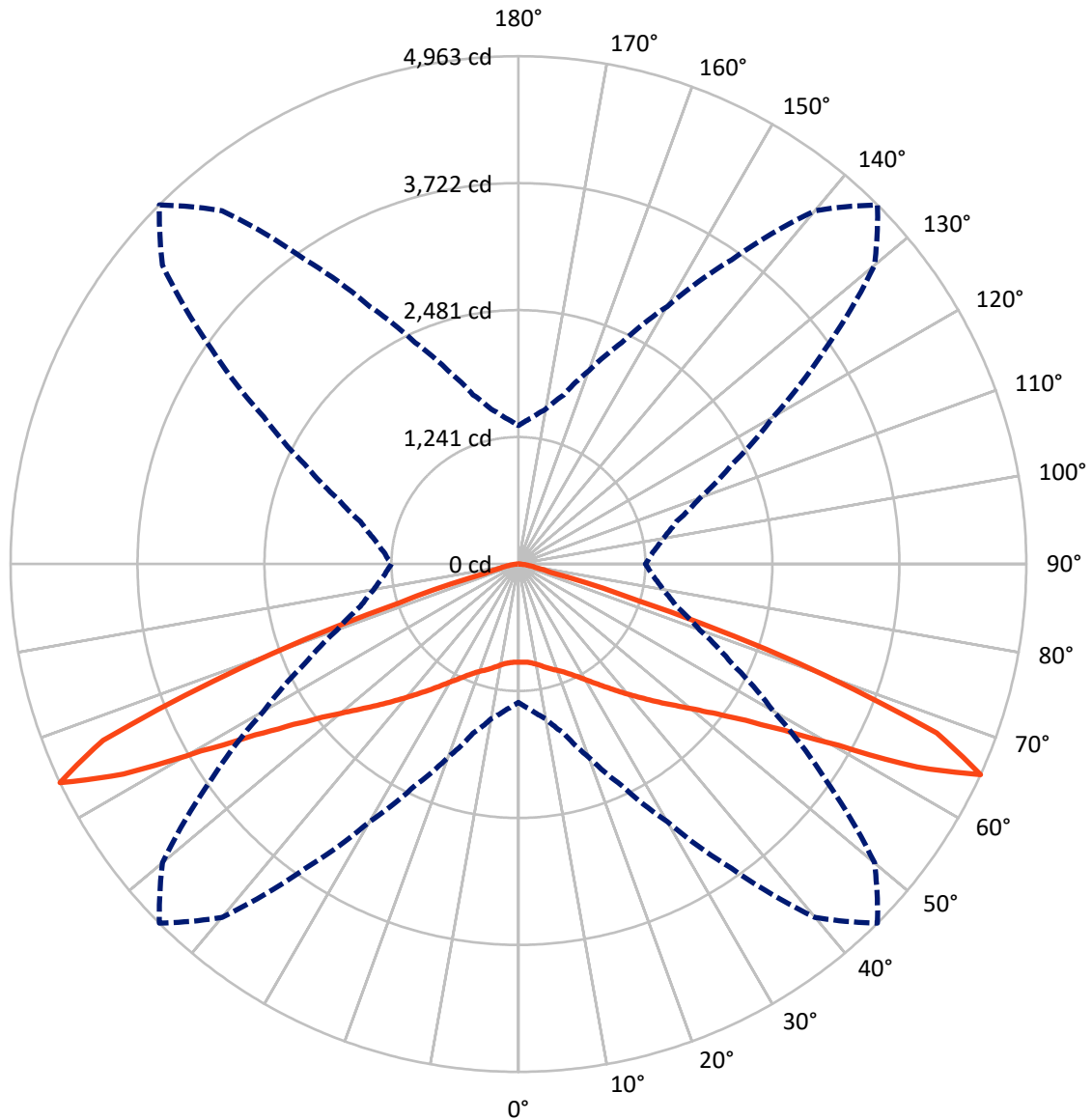
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.6 fc
 Type V - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4219.7	0.0	4219.7
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	4219.7	0.0	4219.7
	% Fixture	50.0	0.0	50.0
Total	Lumens	8439.3	0.0	8439.3
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.5	1.1
10°-20°	299.6	3.6
20°-30°	558.9	6.6
30°-40°	942.4	11.2
40°-50°	1530.8	18.1
50°-60°	2398.5	28.4
60°-70°	2264.0	26.8
70°-80°	305.1	3.6
80°-90°	46.5	0.6
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°	8439.3	100.0
0°-180°	8439.3	100.0

Coefficient of Utilization



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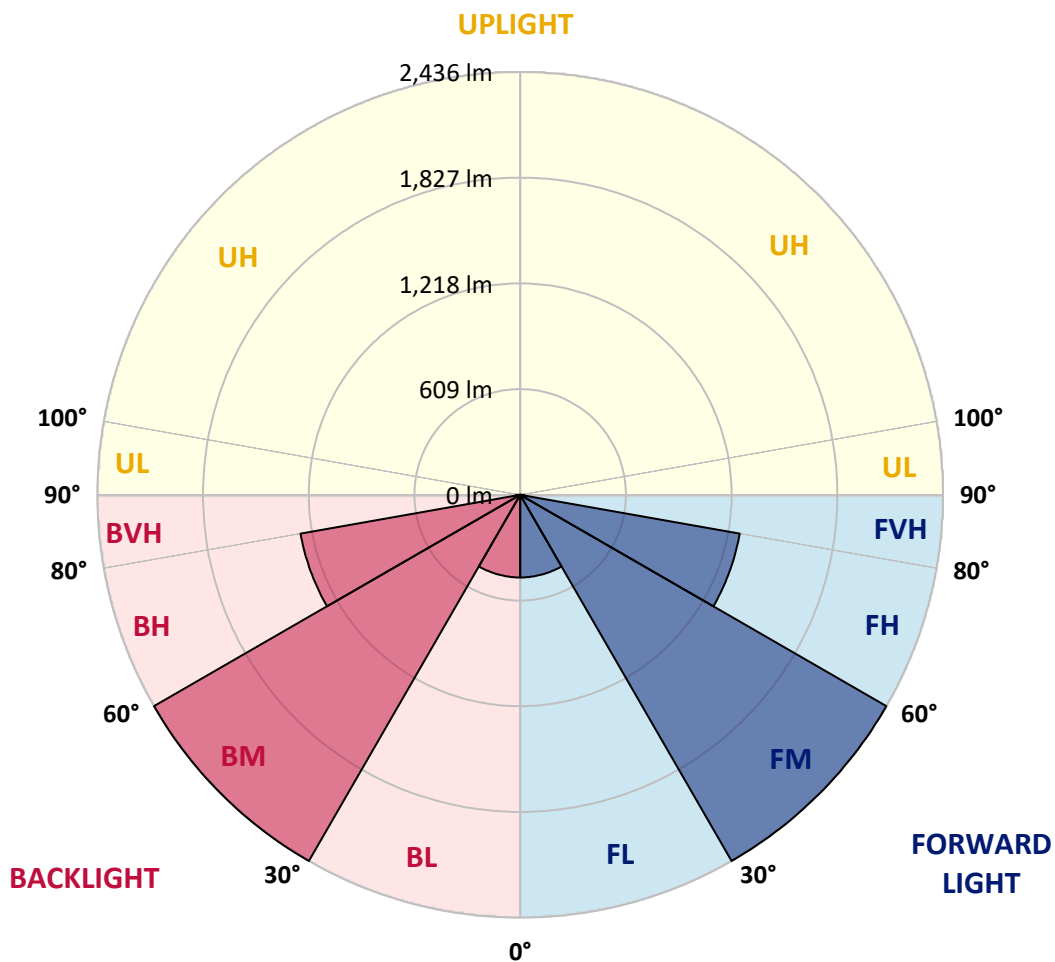
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	476.0	5.6			
FM	(30°-60°)	2435.8	28.9			
FH	(60°-80°)	1284.6	15.2			G1/1800
FVH	(80°-90°)	23.2	0.3			G1/100
BL	(0°-30°)	476.0	5.6	B1/500		
BM	(30°-60°)	2435.8	28.9	B2/2500		
BH	(60°-80°)	1284.6	15.2	B3/2500		G1/1800
BVH	(80°-90°)	23.2	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G1

Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	959.9	959.9	959.9	959.9	959.9	959.9	959.9	959.9	959.9	959.9	959.9
2.5°	967.8	967.8	969.5	968.9	966.8	965.3	963.6	961.6	960.4	959.4	958.9
5°	973.1	973.1	974.7	974.2	972.6	970.5	969.5	967.8	966.3	965.3	965.8
7.5°	986.2	986.7	987.4	986.7	985.2	983.7	981.5	981.0	978.9	977.3	978.4
10°	1006.3	1006.3	1006.8	1007.3	1006.3	1002.6	1002.6	1001.5	999.4	997.3	997.8
12.5°	1028.3	1028.3	1028.9	1028.9	1028.9	1026.7	1027.2	1026.7	1024.1	1023.1	1024.1
15°	1049.9	1050.4	1050.4	1051.5	1051.5	1052.0	1054.0	1054.0	1053.0	1052.5	1052.5
17.5°	1075.1	1076.1	1076.7	1078.3	1078.8	1079.8	1082.0	1082.5	1083.0	1081.4	1082.0
20°	1108.8	1109.3	1110.8	1111.3	1113.5	1113.5	1114.5	1114.0	1113.0	1110.8	1110.8
22.5°	1146.6	1147.6	1150.8	1150.8	1153.5	1151.8	1152.4	1150.8	1148.2	1147.1	1146.1
25°	1196.0	1197.6	1200.2	1199.2	1200.2	1197.6	1197.6	1197.6	1196.0	1194.4	1193.9
27.5°	1258.5	1256.0	1258.5	1256.5	1256.0	1253.8	1254.3	1253.3	1251.8	1251.2	1249.1
30°	1323.8	1320.6	1322.2	1322.7	1321.7	1321.1	1319.0	1317.5	1314.8	1315.3	1313.8
32.5°	1398.4	1395.3	1396.8	1397.4	1396.3	1397.4	1396.8	1393.2	1390.0	1392.1	1392.1
35°	1487.3	1485.1	1489.4	1491.0	1487.8	1486.2	1484.1	1479.9	1475.2	1478.4	1478.9
37.5°	1594.0	1591.4	1594.5	1598.7	1592.9	1589.8	1581.4	1575.0	1571.9	1573.5	1575.5
40°	1705.0	1705.5	1714.4	1715.4	1709.1	1705.5	1697.1	1687.6	1678.7	1678.7	1681.2
42.5°	1821.7	1823.2	1833.7	1837.4	1835.3	1828.4	1816.9	1805.3	1793.7	1795.9	1799.1
45°	1953.5	1951.5	1962.5	1971.4	1969.9	1967.7	1956.7	1935.7	1925.2	1924.7	1929.9
47.5°	2092.3	2096.5	2108.1	2123.3	2122.8	2117.6	2103.4	2084.0	2064.5	2066.1	2072.4
50°	2254.3	2260.1	2279.5	2294.8	2296.8	2295.3	2278.5	2255.9	2228.5	2230.1	2238.5
52.5°	2399.4	2407.8	2430.4	2461.9	2481.4	2490.4	2479.3	2458.3	2430.4	2432.0	2441.0
55°	2530.8	2544.0	2577.6	2620.7	2659.6	2695.9	2712.1	2711.6	2691.2	2695.9	2707.4
57.5°	2613.3	2631.7	2682.8	2752.1	2829.4	2902.5	2965.6	3025.0	3038.2	3062.8	3062.8
60°	2502.4	2545.5	2613.3	2732.2	2884.1	3048.1	3225.8	3398.8	3510.3	3598.0	3550.8
62.5°	2089.8	2153.3	2248.5	2405.2	2641.8	2934.5	3291.5	3693.7	4113.3	4369.7	4181.6
65°	1352.1	1432.0	1535.7	1711.7	2009.8	2386.7	2906.7	3629.5	4507.5	4962.8	4542.2
67.5°	535.7	589.8	652.9	778.1	1036.8	1406.9	1990.4	2882.0	3980.2	4409.7	3938.2
70°	256.0	264.9	277.0	303.8	368.6	497.4	799.6	1420.0	2441.0	2893.5	2382.6
72.5°	185.1	186.6	192.4	201.3	220.2	246.5	299.6	434.2	841.7	1223.9	842.7
75°	140.3	142.5	145.7	150.4	160.3	173.0	192.9	231.3	288.1	332.3	287.6
77.5°	106.7	108.8	111.5	116.2	121.4	130.4	137.7	153.0	177.2	186.6	185.6
80°	77.8	81.5	85.7	89.9	93.6	97.8	98.3	105.7	119.4	128.3	125.6
82.5°	49.4	52.6	63.6	68.3	68.8	70.0	69.4	70.0	77.2	83.6	81.5
85°	31.5	33.7	39.4	44.7	43.7	45.7	45.7	44.7	41.5	35.7	42.6
87.5°	15.8	16.3	18.9	23.6	22.6	19.9	19.4	19.4	14.2	12.1	13.1
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):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	959.9	959.9	959.9	959.9	959.9	959.9	959.9	959.9
2.5°	957.4	958.4	956.8	956.8	956.3	957.4	955.7	955.7
5°	964.7	966.3	965.8	965.8	966.8	967.8	967.3	966.8
7.5°	977.8	978.9	980.0	980.5	981.5	981.0	982.0	981.5
10°	997.8	996.8	998.3	996.8	997.3	996.3	996.8	996.8
12.5°	1023.1	1021.5	1020.4	1019.4	1019.4	1017.2	1017.2	1017.8
15°	1052.0	1049.3	1047.2	1046.2	1045.1	1045.1	1043.5	1044.6
17.5°	1080.3	1077.7	1074.0	1074.0	1072.5	1071.4	1070.4	1073.0
20°	1110.3	1107.7	1105.6	1105.1	1101.9	1100.9	1101.4	1104.6
22.5°	1145.0	1143.5	1143.5	1142.4	1140.3	1138.7	1138.7	1142.4
25°	1191.8	1188.7	1189.2	1189.7	1188.7	1188.7	1187.6	1190.2
27.5°	1249.1	1246.5	1248.1	1249.1	1248.1	1249.6	1248.1	1250.1
30°	1316.4	1314.8	1316.4	1318.0	1315.3	1315.3	1314.3	1315.9
32.5°	1396.8	1394.7	1395.8	1395.8	1392.1	1389.0	1384.8	1387.9
35°	1485.1	1482.6	1484.6	1486.2	1482.1	1478.9	1472.5	1475.2
37.5°	1582.4	1583.4	1586.1	1592.9	1591.9	1586.6	1581.9	1584.0
40°	1691.2	1696.5	1708.0	1712.8	1711.7	1706.5	1700.1	1701.3
42.5°	1814.3	1821.1	1833.2	1841.1	1837.4	1830.1	1822.2	1825.3
45°	1948.3	1958.8	1974.6	1982.5	1977.8	1969.9	1958.8	1964.6
47.5°	2090.3	2111.3	2132.3	2142.9	2141.2	2130.2	2116.0	2117.6
50°	2260.1	2287.9	2314.7	2325.3	2317.4	2300.5	2280.6	2280.1
52.5°	2471.4	2501.4	2523.4	2520.9	2501.4	2475.1	2452.5	2451.4
55°	2735.4	2745.3	2742.1	2719.5	2685.3	2644.3	2615.5	2610.8
57.5°	3054.4	3020.8	2971.4	2903.0	2826.3	2748.5	2695.9	2676.4
60°	3444.5	3292.6	3115.9	2929.8	2760.0	2632.8	2552.4	2503.5
62.5°	3766.8	3326.7	2932.0	2608.6	2344.2	2187.0	2077.1	2009.3
65°	3656.4	2874.1	2302.2	1885.2	1596.6	1434.2	1318.0	1240.7
67.5°	2824.7	1920.5	1336.4	926.3	702.4	594.5	519.5	470.6
70°	1424.2	736.5	446.3	314.9	269.1	250.2	237.6	230.3
72.5°	418.0	279.2	231.8	205.0	188.7	177.2	169.8	166.1
75°	231.3	188.7	166.6	151.4	140.9	133.0	128.3	125.1
77.5°	159.3	137.2	126.1	116.2	107.8	102.0	98.3	95.1
80°	111.5	100.5	95.6	90.4	84.1	79.4	74.2	72.0
82.5°	74.2	69.4	68.3	64.1	60.5	55.2	45.7	42.6
85°	43.7	43.1	43.1	41.5	38.9	34.2	27.3	27.3
87.5°	15.2	15.8	16.3	17.4	16.8	14.2	11.6	11.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)