

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: P196323

Luminaire Tested: **NAV-AF-03-D-UNV-T3R-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196323
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24250)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-03-D-UNV-T3R-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 4000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12417.6 lumens
Efficiency: N/A
Efficacy: 129.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type III - Medium - Full Cutoff
BUG Rating: B2 - U0 - G2

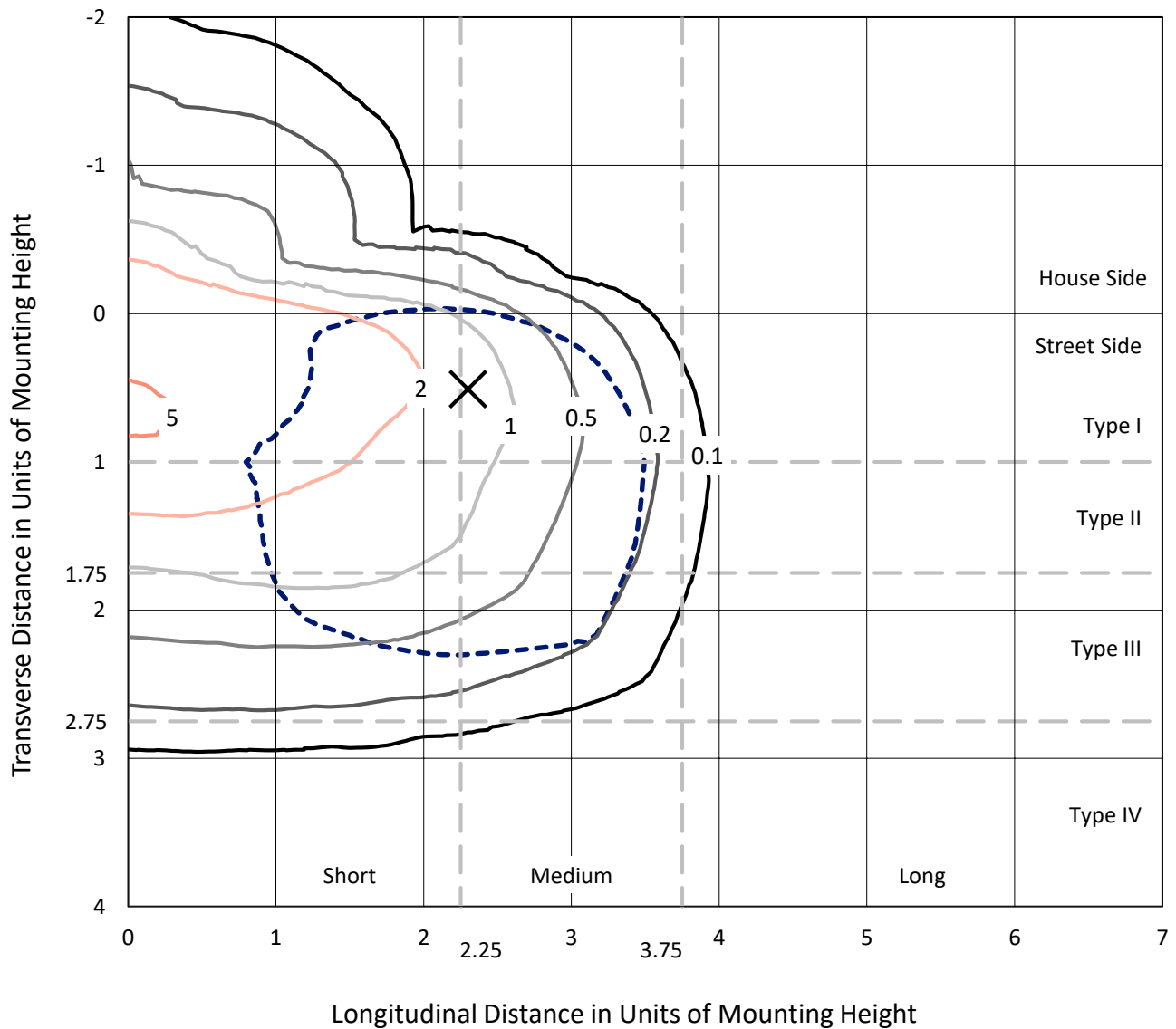
Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P196323
 CATALOG NUMBER: NAV-AF-03-D-UNV-T3R-600

Iso-Footcandle Lines of Horizontal Illumination

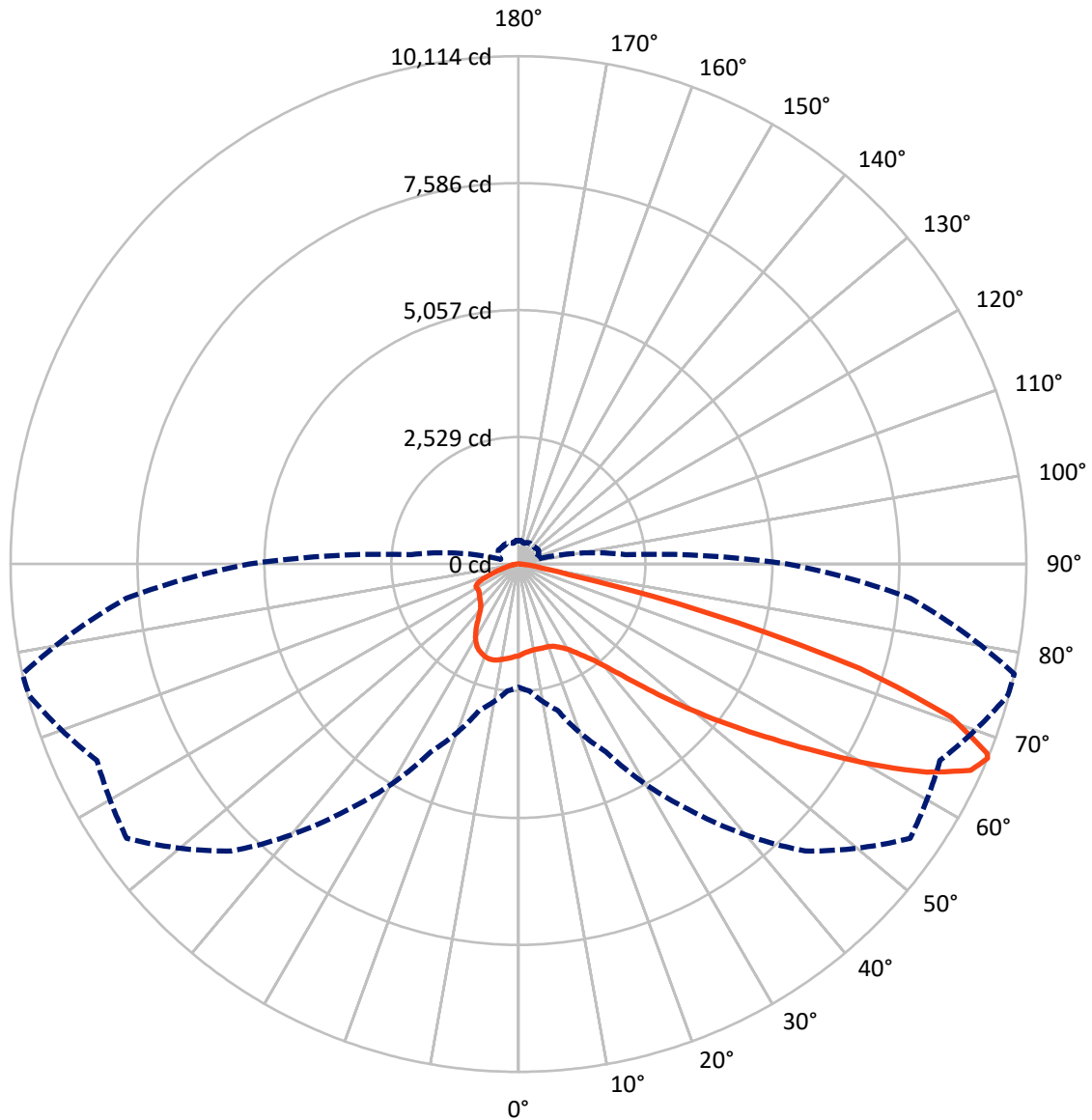
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5.5 fc
 Type III - Medium - Full Cutoff

REPORT NUMBER: P196323
CATALOG NUMBER: NAV-AF-03-D-UNV-T3R-600

Luminous Intensity Polar Plot



— Vertical Plane Through 77.5-Deg Lateral - - - Horizontal Cone Through 67-Deg Vertical

REPORT NUMBER: P196323

CATALOG NUMBER: NAV-AF-03-D-UNV-T3R-600

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2134.0	0.0	2134.0
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	10283.6	0.0	10283.6
	% Fixture	82.8	0.0	82.8
Total	Lumens	12417.6	0.0	12417.6
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.8	1.3
10°-20°	450.8	3.6
20°-30°	765.9	6.2
30°-40°	1225.3	9.9
40°-50°	1886.3	15.2
50°-60°	2617.0	21.1
60°-70°	3490.9	28.1
70°-80°	1661.3	13.4
80°-90°	157.3	1.3
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°	12417.6	100.0
0°-180°	12417.6	100.0



REPORT NUMBER: P196323

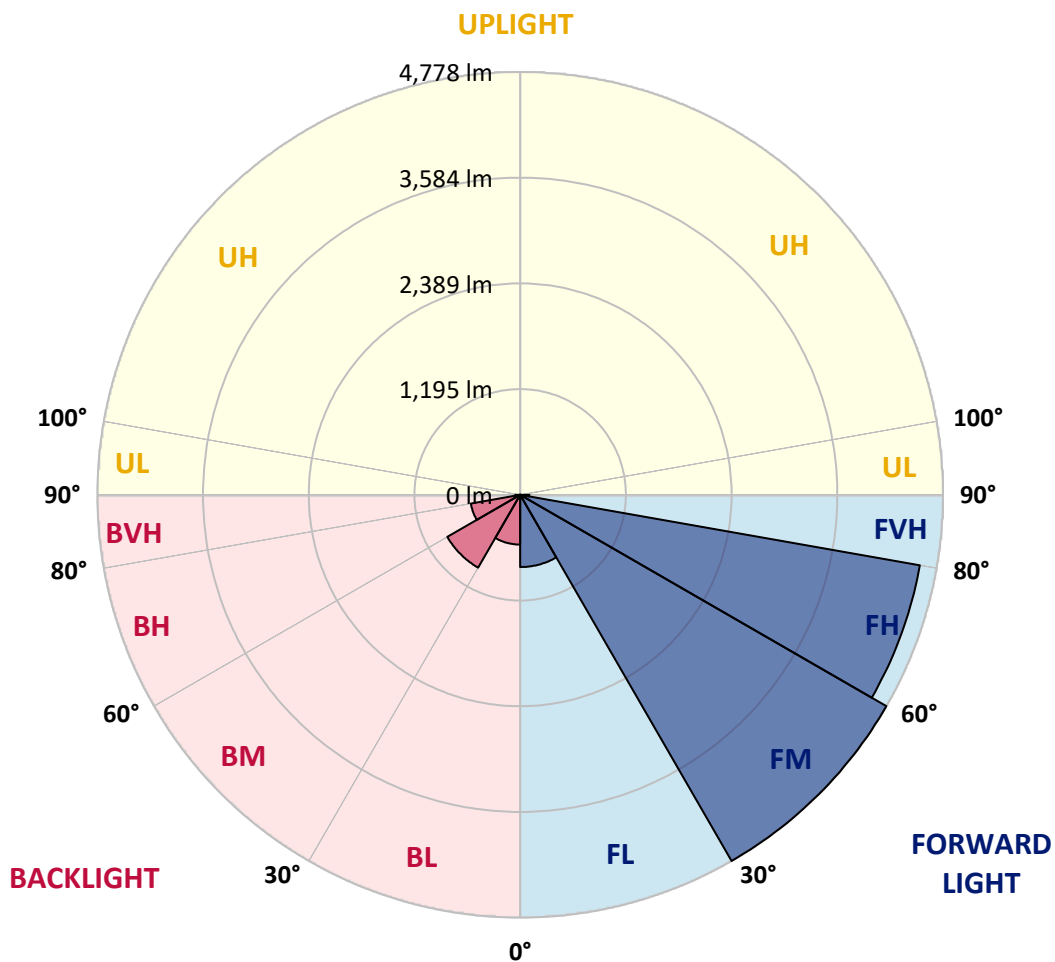
CATALOG NUMBER: NAV-AF-03-D-UNV-T3R-600

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	816.6	6.6			
FM	(30°-60°)	4778.4	38.5			
FH	(60°-80°)	4586.5	36.9			G2/5000
FVH	(80°-90°)	102.2	0.8			G2/225
BL	(0°-30°)	562.9	4.5	B2/1000		
BM	(30°-60°)	950.2	7.7	B1/1000		
BH	(60°-80°)	565.8	4.6	B2/1000		G2/1000
BVH	(80°-90°)	55.1	0.4			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 III Medium





REPORT NUMBER: P196323

CATALOG NUMBER: NAV-AF-03-D-UNV-T3R-600

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	77.5°	85°
0°	1827.5	1827.5	1827.5	1827.5	1827.5	1827.5	1827.5	1827.5	1827.5	1827.5	1827.5
2.5°	1638.8	1646.4	1647.2	1669.5	1679.4	1704.7	1732.4	1756.9	1778.4	1786.1	1799.9
5°	1474.5	1474.5	1476.7	1491.4	1519.8	1560.4	1618.0	1680.9	1747.0	1763.1	1803.8
7.5°	1388.6	1390.1	1391.6	1406.1	1428.4	1464.5	1522.0	1608.0	1717.7	1744.6	1816.0
10°	1396.2	1393.9	1386.2	1383.1	1392.3	1415.4	1465.3	1553.6	1693.2	1734.7	1838.2
12.5°	1516.7	1512.1	1486.8	1449.9	1416.2	1407.7	1442.3	1525.9	1681.7	1734.7	1875.9
15°	1723.2	1726.2	1676.3	1599.6	1511.3	1451.5	1446.9	1515.9	1677.8	1739.3	1919.7
17.5°	1991.8	1993.3	1924.3	1813.0	1666.4	1542.8	1478.3	1515.9	1677.8	1743.9	1961.9
20°	2277.3	2266.6	2188.3	2048.6	1858.3	1669.5	1535.9	1525.1	1682.4	1750.8	2001.8
22.5°	2522.2	2512.2	2430.1	2283.4	2065.4	1819.1	1613.4	1555.8	1707.8	1779.2	2057.8
25°	2736.3	2742.4	2662.6	2497.6	2272.0	1988.0	1729.3	1626.5	1760.8	1830.6	2126.9
27.5°	2996.5	2985.0	2892.9	2735.6	2484.5	2162.9	1874.4	1715.5	1823.7	1892.8	2211.3
30°	3297.4	3292.1	3167.7	3005.7	2718.7	2358.7	2017.9	1811.4	1905.9	1978.0	2317.3
32.5°	3662.8	3662.0	3528.5	3329.6	2981.9	2579.8	2187.5	1942.7	2025.5	2098.5	2457.7
35°	4076.5	4075.7	3937.5	3675.1	3285.1	2824.6	2387.1	2102.4	2173.7	2250.5	2625.0
37.5°	4363.5	4358.9	4286.8	4032.0	3620.5	3109.4	2636.6	2317.3	2341.8	2427.8	2826.9
40°	4418.8	4446.5	4508.7	4358.2	3986.6	3425.6	2886.8	2548.3	2571.3	2681.9	3080.9
42.5°	4358.9	4395.0	4601.4	4643.7	4352.8	3808.7	3199.9	2868.4	2897.5	3034.9	3379.5
45°	4306.7	4338.2	4596.8	4801.8	4714.3	4226.1	3590.7	3259.0	3314.3	3484.7	3720.4
47.5°	4217.7	4246.9	4506.3	4830.2	4920.8	4628.3	4061.1	3728.8	3824.0	4030.4	4108.7
50°	4213.1	4226.1	4382.7	4735.0	4992.2	4933.8	4582.3	4278.4	4424.2	4662.1	4538.5
52.5°	4096.4	4187.8	4329.7	4583.0	4993.7	5111.9	5095.8	4880.9	5105.8	5369.1	5009.8
55°	3382.6	3487.8	4153.2	4508.7	4984.5	5264.6	5564.8	5521.8	5873.3	6150.4	5537.8
57.5°	3158.5	3203.0	3643.5	4530.9	5061.3	5517.2	6033.8	6210.2	6751.4	7053.9	6171.2
60°	3097.1	3143.9	3541.5	4541.6	5269.2	5976.9	6670.0	6987.8	7783.7	8104.6	6890.3
62.5°	3028.8	3089.4	3549.1	4551.6	5634.6	6657.0	7514.4	7831.3	8843.7	9130.0	7564.2
65°	2829.2	2909.8	3407.1	4488.6	6034.5	7510.5	8630.3	8710.9	9719.6	9901.4	7971.0
67°	2450.8	2539.1	3017.3	4124.8	5997.7	8085.4	9523.1	9261.3	10091.8	10114.0	7839.0
67.5°	2331.1	2422.3	2885.2	3973.7	5892.5	8160.6	9681.1	9337.3	10088.8	10064.2	7716.2
70°	1569.6	1672.5	2043.2	2917.5	4726.5	7594.9	9642.7	9103.1	9427.1	9145.4	6629.3
72.5°	779.1	782.1	1019.3	1598.1	2863.8	5447.3	8044.0	7787.6	7641.7	7109.8	4864.7
75°	375.3	382.3	481.3	706.1	1207.4	2812.3	5485.7	5254.7	4474.1	3873.8	2434.7
77.5°	286.3	293.2	373.8	459.7	503.5	917.2	2717.2	2196.0	1296.4	1035.4	686.2
80°	221.1	234.2	315.5	353.1	333.1	367.6	854.3	672.4	504.3	462.9	340.0
82.5°	172.7	180.3	267.9	267.9	230.3	246.4	397.6	388.4	313.1	282.4	182.7
85°	122.0	137.4	215.6	199.6	151.2	152.7	237.9	227.9	161.2	129.7	71.4
87.5°	54.5	69.9	153.5	130.5	80.6	62.2	97.5	83.7	63.7	49.1	33.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P196323

CATALOG NUMBER: NAV-AF-03-D-UNV-T3R-600

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1827.5	1827.5	1827.5	1827.5	1827.5	1827.5	1827.5	1827.5	1827.5	1827.5	1827.5
2.5°	1815.2	1827.5	1846.7	1858.3	1873.6	1879.8	1885.9	1896.7	1905.0	1902.8	1898.9
5°	1832.1	1852.9	1876.7	1884.4	1884.4	1876.7	1872.1	1872.8	1870.6	1869.0	1864.4
7.5°	1856.8	1885.1	1902.0	1894.3	1870.6	1840.6	1812.2	1795.3	1779.2	1769.2	1772.3
10°	1891.2	1922.7	1923.5	1889.7	1832.9	1767.7	1711.6	1675.6	1641.0	1625.7	1630.3
12.5°	1941.2	1972.7	1945.8	1872.8	1773.1	1671.0	1568.1	1493.6	1426.9	1410.8	1406.1
15°	1994.9	2019.4	1959.6	1836.7	1687.1	1519.0	1346.3	1235.0	1160.5	1147.4	1142.8
17.5°	2041.7	2055.5	1952.6	1772.3	1551.2	1286.5	1085.4	1010.1	994.7	1002.4	1002.4
20°	2083.1	2078.5	1922.7	1672.5	1337.1	1028.5	911.9	911.0	931.8	951.0	952.6
22.5°	2135.3	2099.3	1875.2	1524.4	1081.5	858.2	838.2	858.2	881.2	902.7	904.9
25°	2197.5	2122.3	1811.4	1313.3	869.6	779.1	787.5	804.3	819.0	835.9	836.7
27.5°	2259.7	2139.9	1721.6	1065.4	754.5	728.4	737.6	744.5	748.4	759.1	759.1
30°	2331.8	2153.7	1591.9	853.6	701.5	683.8	678.5	675.5	678.5	693.2	693.9
32.5°	2422.3	2178.3	1414.6	732.2	677.0	652.4	624.8	609.5	620.2	646.3	650.9
35°	2525.3	2207.5	1202.0	683.8	668.5	637.1	586.5	562.6	566.4	590.2	594.1
37.5°	2654.3	2245.1	992.5	672.4	677.0	635.6	568.8	535.0	518.1	518.8	518.1
40°	2819.3	2282.7	826.6	675.5	695.4	639.3	560.3	507.4	472.1	473.6	476.7
42.5°	2991.9	2307.3	721.5	684.7	717.7	644.8	557.2	480.5	449.8	475.9	499.7
45°	3193.8	2300.3	667.0	693.2	734.6	647.0	545.7	477.4	452.0	530.4	574.9
47.5°	3425.6	2270.4	636.3	696.9	739.2	646.3	537.3	487.4	471.3	607.1	657.8
50°	3677.3	2223.6	611.7	690.8	736.8	643.2	546.5	499.7	478.9	624.0	663.2
52.5°	3952.9	2180.6	586.5	677.0	725.4	634.0	558.0	494.3	457.5	574.9	604.9
55°	4279.1	2170.6	558.0	653.2	706.1	624.0	551.9	477.4	433.6	509.6	528.0
57.5°	4652.2	2232.8	521.2	624.0	680.1	604.1	537.3	468.2	425.2	463.6	473.6
60°	5125.7	2370.2	482.0	593.3	647.8	574.1	524.3	470.6	427.5	456.6	459.0
62.5°	5495.7	2493.7	446.7	555.7	604.9	538.1	510.5	472.8	434.4	466.0	462.1
65°	5630.0	2433.2	402.9	499.7	544.2	498.2	491.2	474.3	434.4	471.3	462.9
67°	5354.4	2143.8	361.5	443.7	486.6	462.9	472.8	468.2	426.8	470.6	455.9
67.5°	5223.2	2041.7	350.8	434.4	471.3	452.0	468.2	465.1	424.4	469.0	452.0
70°	4307.5	1464.5	296.2	364.6	394.6	398.3	439.8	445.2	406.0	440.6	409.9
72.5°	3064.9	916.5	255.6	282.4	318.5	340.7	401.4	418.3	381.5	383.0	357.7
75°	1516.7	492.0	227.9	218.0	248.0	284.0	350.1	381.5	345.3	319.3	310.9
77.5°	512.0	278.7	192.6	175.7	192.6	227.9	290.1	333.1	304.7	270.2	264.8
80°	264.8	202.6	150.5	141.3	152.0	176.6	227.2	277.1	260.2	261.8	215.6
82.5°	165.0	123.6	108.2	107.4	115.1	135.1	167.4	224.8	223.3	191.1	138.9
85°	76.7	71.4	69.0	71.4	73.7	76.7	108.9	160.4	169.6	102.8	91.3
87.5°	32.2	31.5	27.6	30.0	33.0	32.2	43.8	68.3	95.1	64.4	59.1
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)