

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: P195867

Luminaire Tested: **NAV-AF-03-D-UNV-T4FT-7050-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195867
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24256)
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-T4FT-7050-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 5000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12029 lumens
Efficiency: N/A
Efficacy: 125.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G2

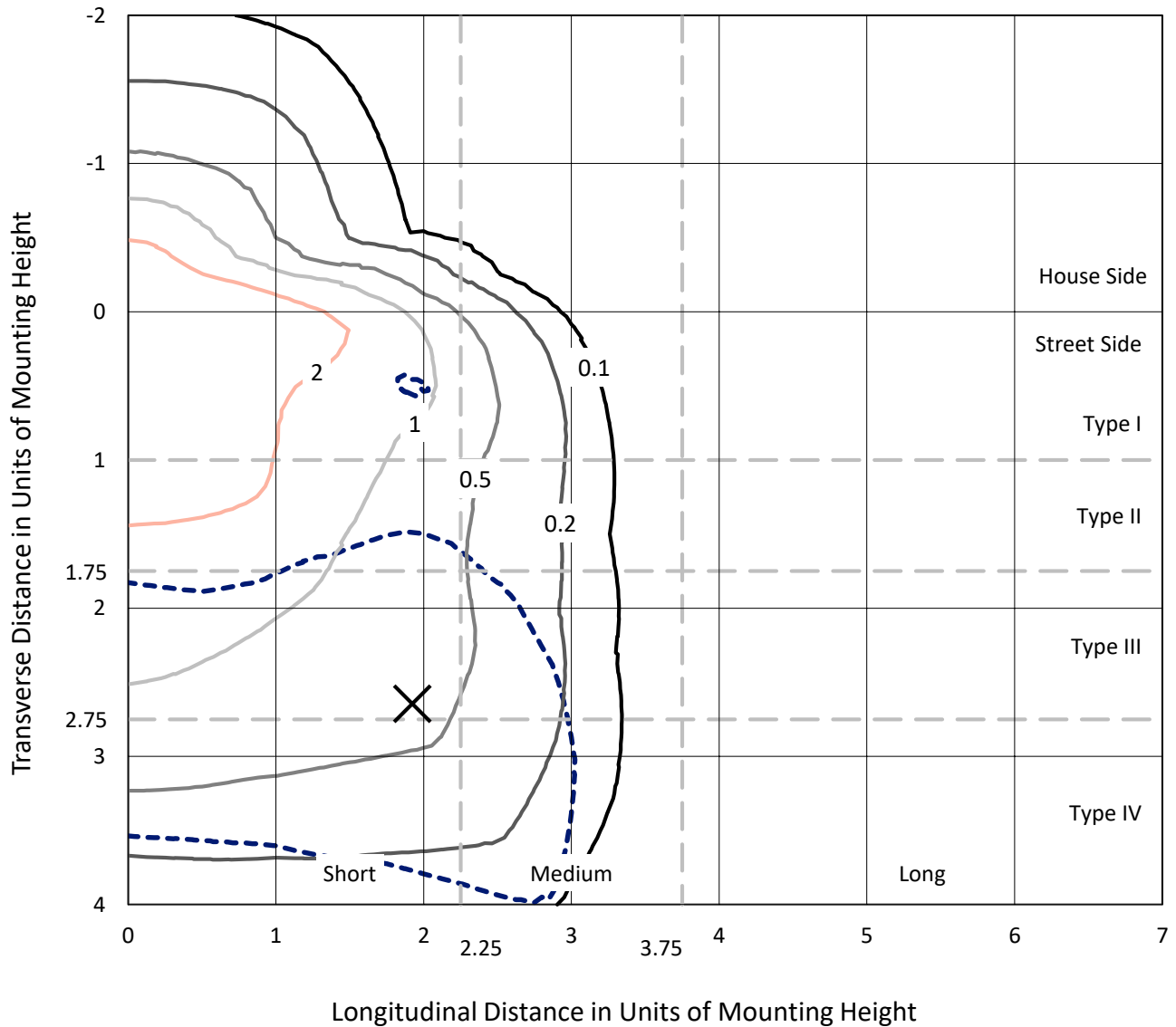
Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P195867
 CATALOG NUMBER: NAV-AF-03-D-UNV-T4FT-7050-600

Iso-Footcandle Lines of Horizontal Illumination

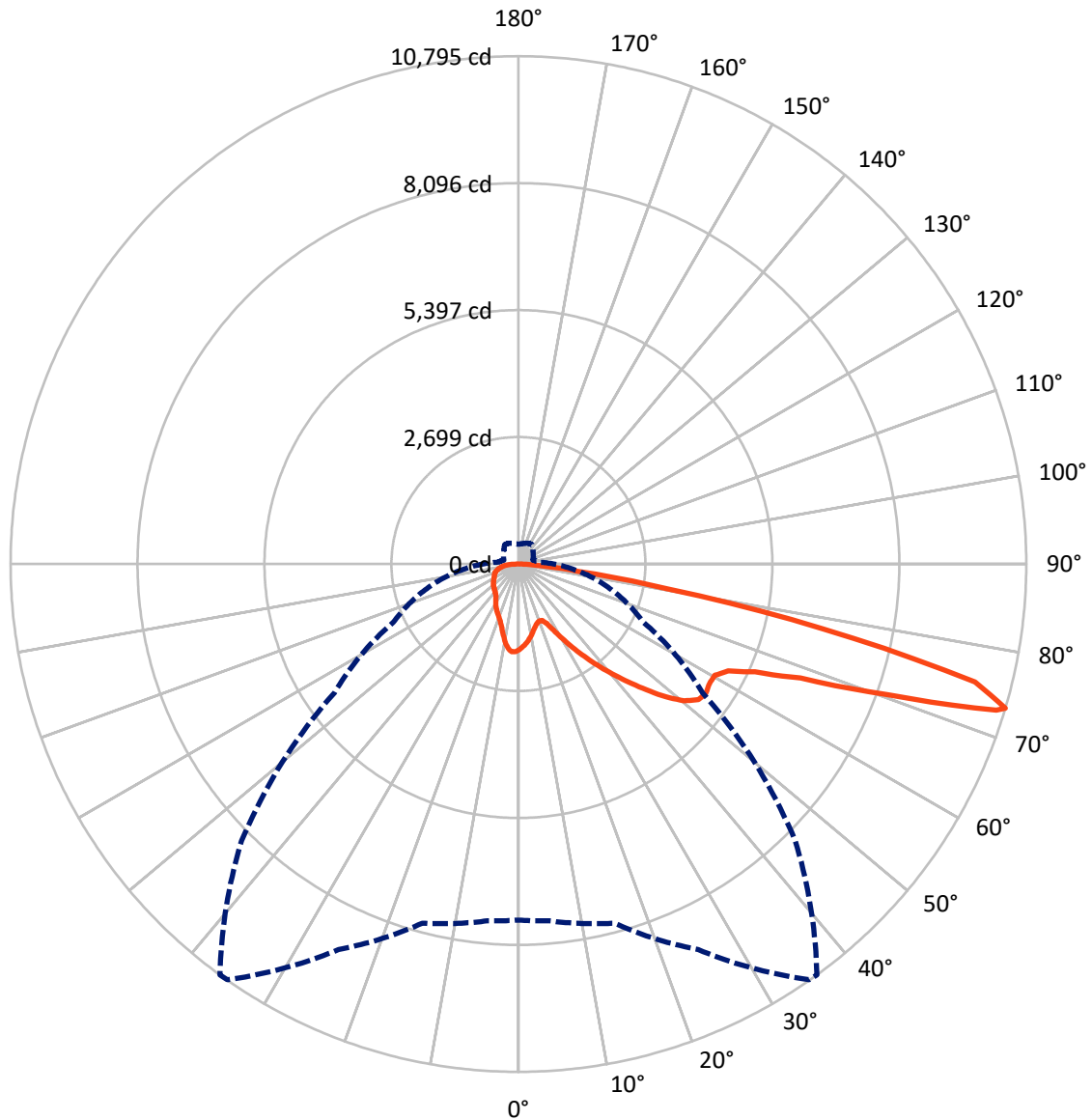
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.6 fc
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P195867
CATALOG NUMBER: NAV-AF-03-D-UNV-T4FT-7050-600

Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral - - - Horizontal Cone Through 73-Deg Vertical

REPORT NUMBER: P195867

CATALOG NUMBER: NAV-AF-03-D-UNV-T4FT-7050-600

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2319.6	0.0	2319.6
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	9709.4	0.0	9709.4
	% Fixture	80.7	0.0	80.7
Total	Lumens	12029.0	0.0	12029.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	165.5	1.4
10°-20°	415.6	3.5
20°-30°	666.4	5.5
30°-40°	1102.3	9.2
40°-50°	1705.6	14.2
50°-60°	2283.3	19.0
60°-70°	2982.7	24.8
70°-80°	2436.4	20.3
80°-90°	271.2	2.3
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°	12029.0	100.0
0°-180°	12029.0	100.0



REPORT NUMBER: P195867

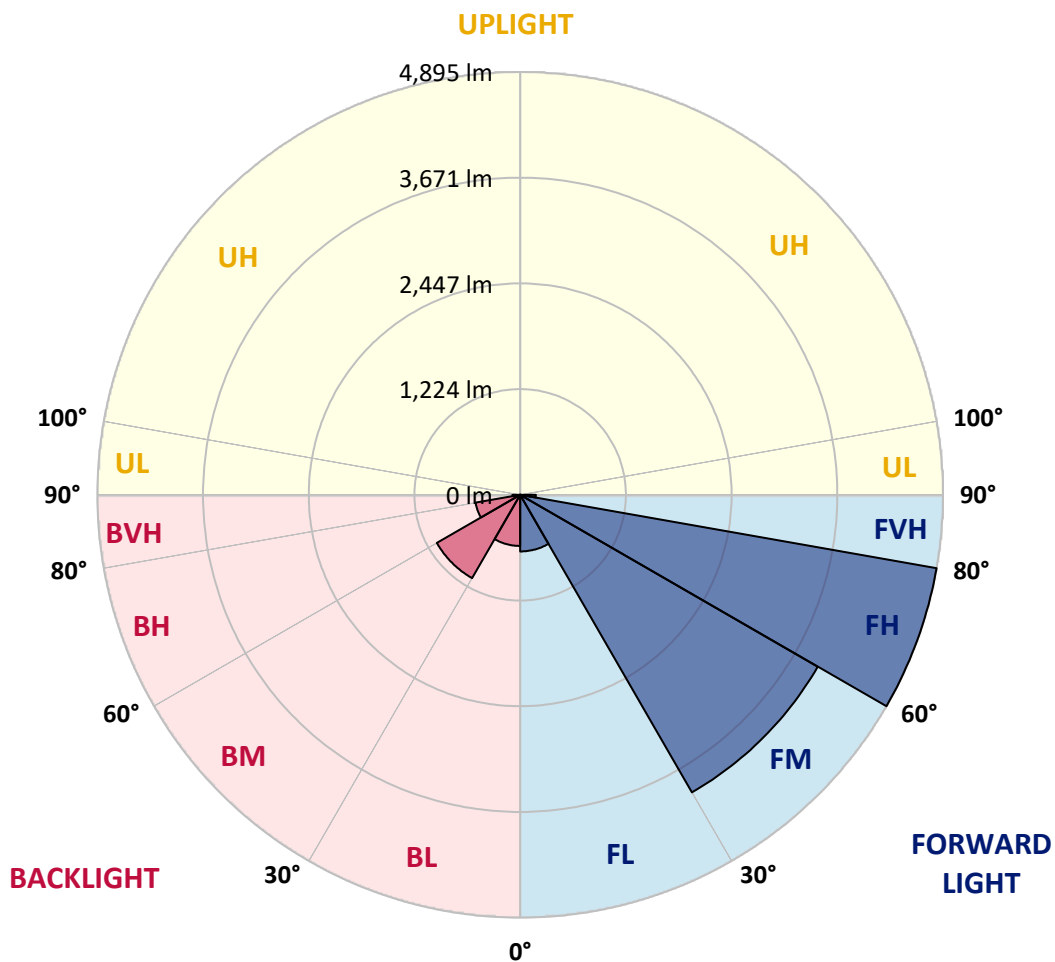
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	655.4	5.4			
FM (30°-60°)	3977.2	33.1			
FH (60°-80°)	4894.9	40.7			G2/5000
FVH (80°-90°)	181.9	1.5			G2/225
BL (0°-30°)	592.1	4.9	B2/1000		
BM (30°-60°)	1114.0	9.3	B2/2500		
BH (60°-80°)	524.2	4.4	B2/1000		G2/1000
BVH (80°-90°)	89.3	0.7			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





REPORT NUMBER: P195867

CATALOG NUMBER: NAV-AF-03-D-UNV-T4FT-7050-600

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	1822.0	1822.0	1822.0	1822.0	1822.0	1822.0	1822.0	1822.0	1822.0	1822.0	1822.0
2.5°	1752.5	1757.1	1757.8	1763.2	1763.2	1762.4	1764.7	1773.9	1778.5	1789.2	1798.4
5°	1666.1	1671.5	1673.8	1682.9	1694.4	1695.2	1703.6	1721.2	1738.0	1761.7	1781.5
7.5°	1569.1	1575.2	1581.3	1600.4	1617.2	1618.7	1634.8	1663.1	1685.2	1714.3	1750.2
10°	1475.1	1476.6	1482.7	1507.2	1529.3	1531.6	1554.5	1586.6	1616.5	1657.0	1697.5
12.5°	1397.9	1402.5	1400.9	1419.3	1438.4	1439.9	1470.5	1511.0	1554.5	1600.4	1648.6
15°	1371.1	1370.4	1354.3	1353.5	1361.9	1363.5	1393.3	1440.7	1489.6	1546.1	1608.0
17.5°	1389.5	1383.3	1341.3	1315.3	1310.0	1311.5	1333.7	1385.6	1437.6	1502.6	1576.7
20°	1490.3	1466.7	1368.1	1305.4	1287.8	1287.8	1300.8	1342.8	1400.2	1475.8	1569.1
22.5°	1729.6	1692.9	1482.7	1371.1	1309.2	1303.1	1293.2	1325.3	1388.7	1479.6	1600.4
25°	2030.7	2013.1	1692.9	1546.1	1418.5	1398.6	1332.9	1344.4	1412.4	1520.9	1686.0
27.5°	2309.7	2279.1	1968.8	1800.6	1620.3	1589.7	1450.6	1404.0	1468.9	1597.3	1809.8
30°	2472.4	2451.8	2252.3	2091.8	1877.1	1838.1	1638.6	1521.7	1569.8	1723.5	1985.6
32.5°	2649.8	2637.5	2536.6	2390.7	2155.3	2110.2	1881.7	1713.5	1724.2	1890.8	2197.3
35°	2821.7	2837.8	2780.5	2673.5	2454.9	2412.8	2208.0	1964.2	1914.5	2078.8	2423.5
37.5°	3028.1	3031.9	2996.0	2926.4	2769.8	2735.4	2566.5	2231.7	2121.6	2279.1	2642.1
40°	3440.0	3379.6	3239.0	3184.0	3090.7	3069.3	2876.8	2477.0	2314.2	2484.7	2848.5
42.5°	3885.6	3791.6	3571.5	3481.3	3443.8	3424.0	3135.1	2640.6	2494.6	2690.3	3051.0
45°	4244.8	4168.4	3952.9	3841.3	3845.9	3813.8	3360.5	2786.6	2690.3	2896.6	3277.2
47.5°	4598.7	4471.0	4229.5	4213.5	4267.0	4219.6	3576.1	2932.5	2894.3	3121.3	3503.5
50°	4621.6	4505.4	4407.6	4536.0	4627.7	4568.9	3771.7	3123.6	3106.0	3393.4	3795.4
52.5°	4342.6	4325.8	4474.9	4691.2	4843.2	4790.5	3931.5	3320.0	3322.3	3733.5	4150.8
55°	4241.0	4219.6	4398.4	4664.4	4870.0	4838.7	4050.7	3541.7	3562.3	4146.2	4532.2
57.5°	4412.2	4358.7	4393.8	4614.0	4807.3	4789.0	4174.5	3787.8	3825.2	4621.6	4884.5
60°	4943.4	4834.1	4647.6	4688.9	4809.6	4798.9	4351.8	4062.1	4124.8	5116.9	5107.7
62.5°	5739.0	5615.2	5235.3	5051.9	5025.1	5004.5	4644.5	4399.2	4430.5	5474.5	4977.8
65°	6611.8	6478.8	6027.1	5726.8	5569.3	5525.0	5116.9	4805.8	4609.4	5473.8	4471.8
67.5°	7591.6	7451.0	7000.8	6714.2	6543.8	6468.1	5883.4	5134.4	4551.3	5010.6	3578.4
70°	8595.1	8461.3	8255.0	8355.1	8430.0	8314.6	7091.0	5243.7	4134.0	3928.4	2402.9
72.5°	8062.4	8051.7	8208.4	9157.6	10601.3	10624.3	8297.0	4935.0	3193.9	2334.9	1280.9
73°	7567.9	7613.0	7903.4	9039.1	10787.0	10794.7	8320.7	4775.2	2932.5	2011.6	1125.0
75°	3920.8	4226.5	5304.1	7329.4	9988.4	10024.3	7334.8	3615.0	1747.9	1117.4	758.2
77.5°	1050.1	1036.4	1708.9	3570.7	6659.2	6611.8	4634.6	1750.2	837.7	700.8	531.9
80°	360.0	364.6	581.6	1306.2	3108.3	3219.1	2011.6	763.5	551.0	488.4	376.8
82.5°	183.4	189.5	304.2	555.6	1300.0	1272.5	647.3	449.4	369.1	296.5	210.9
85°	97.8	100.9	167.4	288.1	476.9	482.3	227.8	240.0	234.6	168.1	103.9
87.5°	48.1	49.7	80.2	126.9	176.5	170.4	79.5	103.9	115.4	94.8	57.3
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: P195867

CATALOG NUMBER: NAV-AF-03-D-UNV-T4FT-7050-600

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1822.0	1822.0	1822.0	1822.0	1822.0	1822.0	1822.0	1822.0	1822.0	1822.0	1822.0
2.5°	1809.8	1809.8	1819.8	1836.6	1848.8	1860.3	1867.9	1880.1	1887.0	1886.2	1885.5
5°	1797.6	1805.2	1825.1	1845.7	1859.5	1868.7	1868.7	1874.0	1874.0	1871.7	1868.7
7.5°	1769.3	1782.3	1811.3	1829.7	1833.5	1823.6	1803.7	1788.4	1769.3	1759.4	1755.6
10°	1724.2	1741.0	1777.7	1786.1	1766.3	1731.1	1682.9	1641.7	1605.0	1588.2	1582.8
12.5°	1679.9	1702.1	1736.4	1723.5	1676.1	1607.3	1533.1	1476.6	1435.3	1419.3	1413.9
15°	1643.2	1670.0	1696.7	1656.2	1573.7	1478.1	1396.3	1343.6	1312.3	1300.0	1297.0
17.5°	1618.7	1650.1	1659.3	1583.6	1468.9	1361.9	1289.3	1254.9	1241.2	1235.8	1234.3
20°	1620.3	1655.4	1633.3	1513.3	1368.1	1260.3	1212.1	1202.2	1202.2	1202.2	1201.4
22.5°	1662.3	1692.9	1622.6	1447.5	1271.0	1174.7	1154.1	1162.5	1168.6	1168.6	1167.8
25°	1749.4	1766.3	1630.2	1384.1	1180.0	1100.6	1101.3	1117.4	1122.7	1122.7	1121.2
27.5°	1882.4	1868.7	1644.0	1313.8	1090.6	1033.3	1044.0	1058.5	1062.3	1060.1	1059.3
30°	2049.0	1994.0	1655.4	1231.3	1006.6	970.6	979.8	988.2	985.2	979.8	979.0
32.5°	2235.5	2121.6	1648.6	1138.8	932.4	905.7	911.0	915.6	911.0	898.0	898.0
35°	2420.5	2237.0	1611.1	1037.9	873.6	843.0	842.2	856.8	856.0	840.7	841.5
37.5°	2582.5	2328.0	1538.5	945.4	823.1	797.1	800.2	809.4	814.0	793.3	791.0
40°	2723.9	2390.7	1436.1	866.7	782.6	784.2	775.7	761.2	755.9	746.7	745.2
42.5°	2856.9	2434.2	1327.6	801.0	762.0	779.6	751.3	716.9	702.4	710.8	716.1
45°	2987.6	2483.1	1222.8	746.7	736.0	765.8	726.8	688.6	671.8	675.6	681.0
47.5°	3147.3	2551.2	1096.7	688.6	696.3	740.6	711.5	670.3	645.1	629.8	625.2
50°	3357.5	2649.8	933.2	625.9	654.2	713.1	698.6	643.5	616.0	585.4	577.8
52.5°	3620.4	2743.0	768.1	575.5	619.8	689.4	677.2	620.6	587.0	550.3	544.2
55°	3882.5	2756.0	625.9	531.9	580.9	657.3	651.2	602.3	554.9	525.1	518.9
57.5°	4066.0	2632.9	530.4	495.3	543.4	617.5	627.5	580.1	528.1	505.2	501.4
60°	4069.0	2338.7	472.3	470.8	515.1	583.1	603.0	554.1	511.3	496.0	493.0
62.5°	3745.7	1884.7	434.9	452.5	494.5	554.9	584.7	539.6	507.5	501.4	498.3
65°	3139.7	1392.5	405.1	435.6	475.4	531.2	569.4	535.0	506.0	503.7	501.4
67.5°	2318.1	954.6	379.8	414.2	454.0	506.7	554.9	528.1	496.8	506.0	502.9
70°	1458.2	637.4	356.2	389.8	425.7	478.4	535.8	515.9	485.3	480.0	470.0
72.5°	823.1	460.9	327.9	358.4	389.0	441.0	509.8	495.3	459.3	437.9	428.0
73°	743.6	436.4	321.0	350.8	380.6	433.3	503.7	489.1	451.7	428.0	418.8
75°	544.2	356.9	289.7	319.5	345.5	398.2	474.6	458.6	418.1	389.8	383.7
77.5°	394.4	275.1	249.2	275.9	298.8	349.3	431.1	412.7	373.0	357.7	351.6
80°	284.3	208.6	206.4	232.3	252.2	303.4	384.4	365.3	327.1	372.2	362.3
82.5°	169.7	133.7	151.3	180.4	201.0	254.5	334.0	311.8	275.1	278.2	236.9
85°	81.0	75.7	94.0	118.5	133.0	174.3	278.2	260.6	220.1	180.4	176.5
87.5°	35.9	34.4	45.1	52.7	71.1	104.7	190.3	168.9	159.7	95.5	74.9
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)