

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: P196364

Luminaire Tested: **NAV-AF-02-D-UNV-T4FT-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196364
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-02-D-UNV-T4FT-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 4000K, 1200mA 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: 13777.1 lumens
Efficiency: N/A
Efficacy: 106.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G3

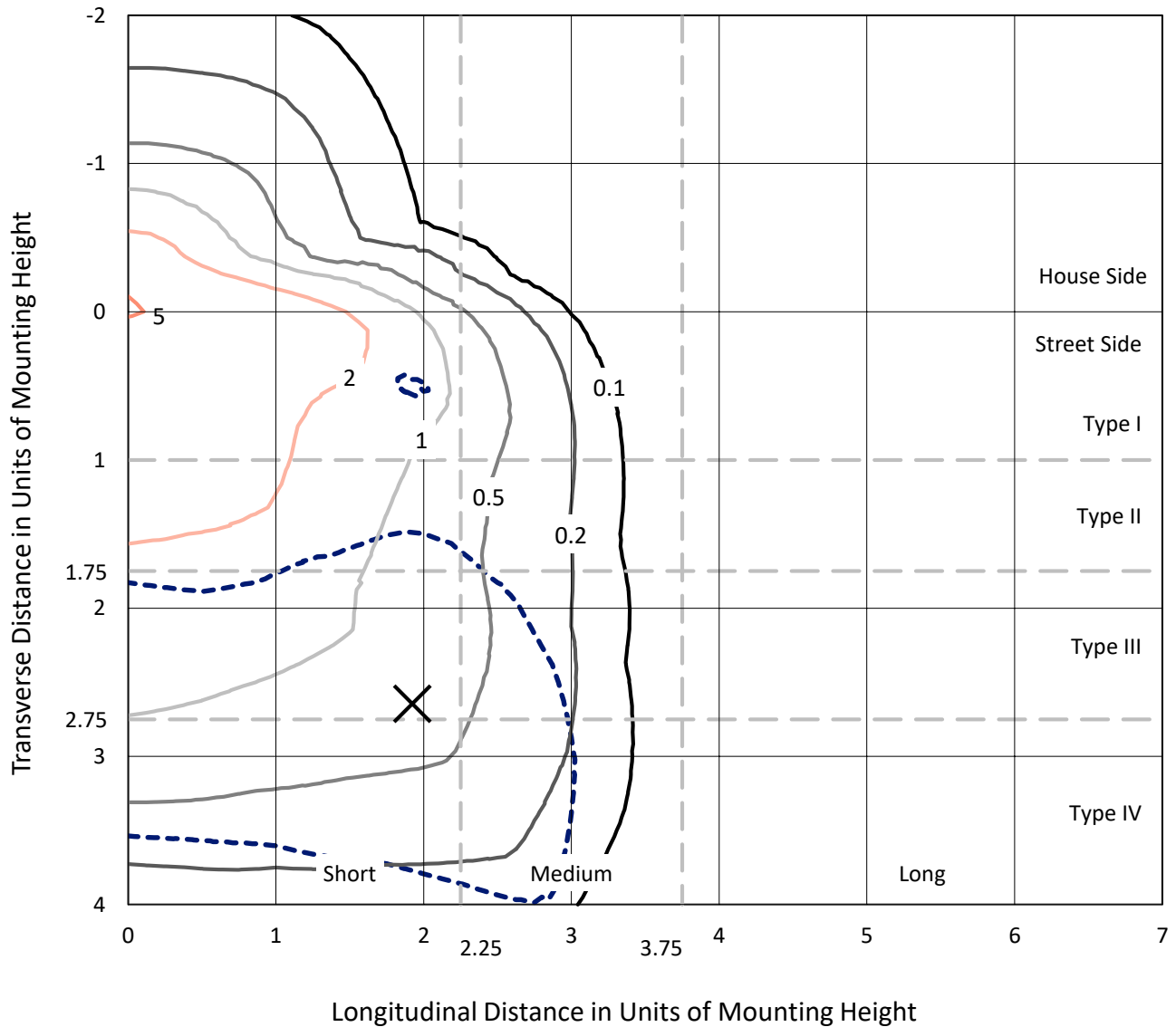
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P196364
 CATALOG NUMBER: NAV-AF-02-D-UNV-T4FT-1200

Iso-Footcandle Lines of Horizontal Illumination

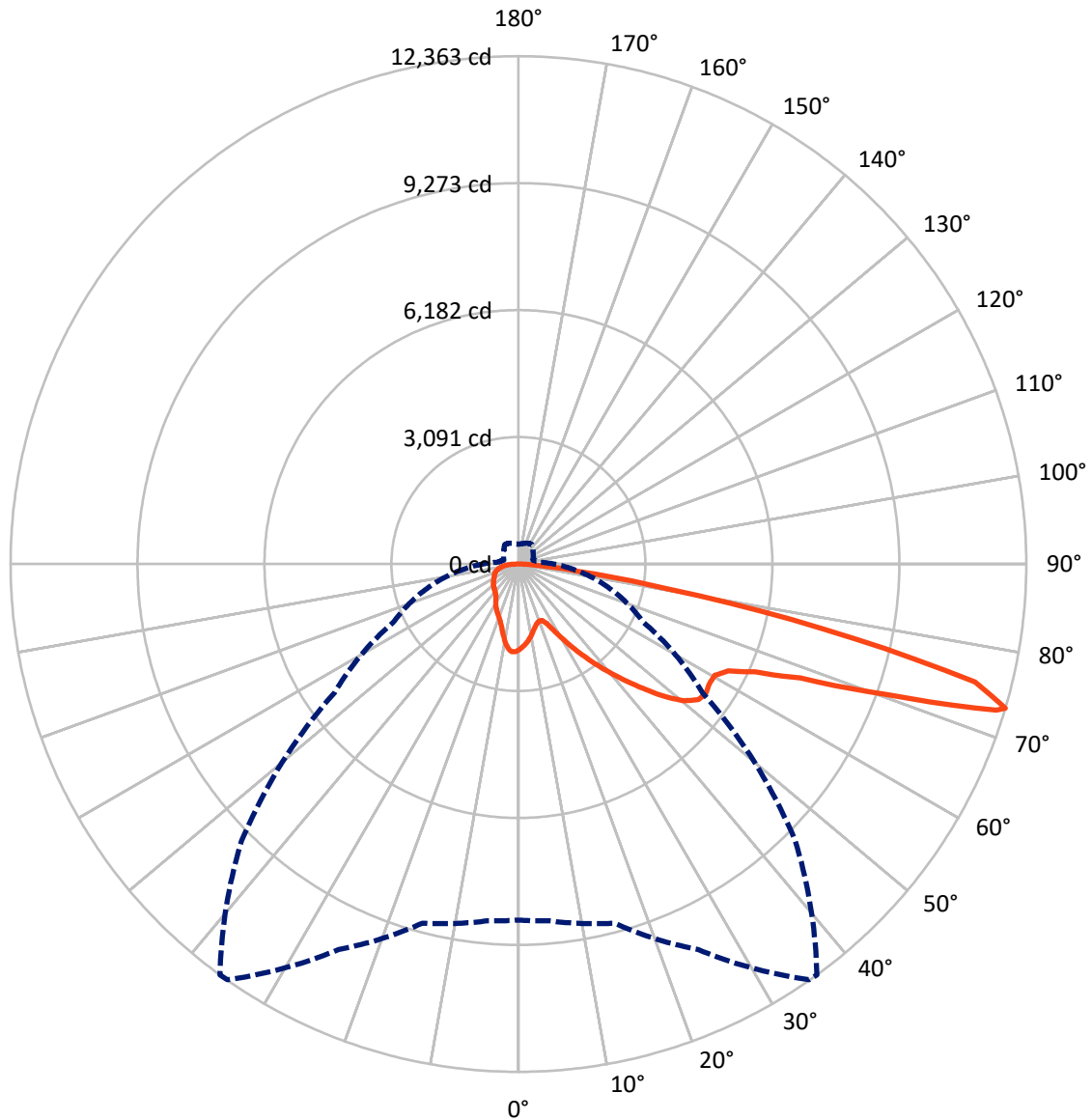
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5.2 fc
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P196364
CATALOG NUMBER: NAV-AF-02-D-UNV-T4FT-1200

Luminous Intensity Polar Plot



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

REPORT NUMBER: P196364

CATALOG NUMBER: NAV-AF-02-D-UNV-T4FT-1200

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2656.6	0.0	2656.6
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	11120.5	0.0	11120.5
	% Fixture	80.7	0.0	80.7
Total	Lumens	13777.1	0.0	13777.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	189.5	1.4
10°-20°	476.0	3.5
20°-30°	763.2	5.5
30°-40°	1262.4	9.2
40°-50°	1953.5	14.2
50°-60°	2615.1	19.0
60°-70°	3416.2	24.8
70°-80°	2790.4	20.3
80°-90°	310.6	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°	13777.1	100.0
0°-180°	13777.1	100.0



REPORT NUMBER: P196364

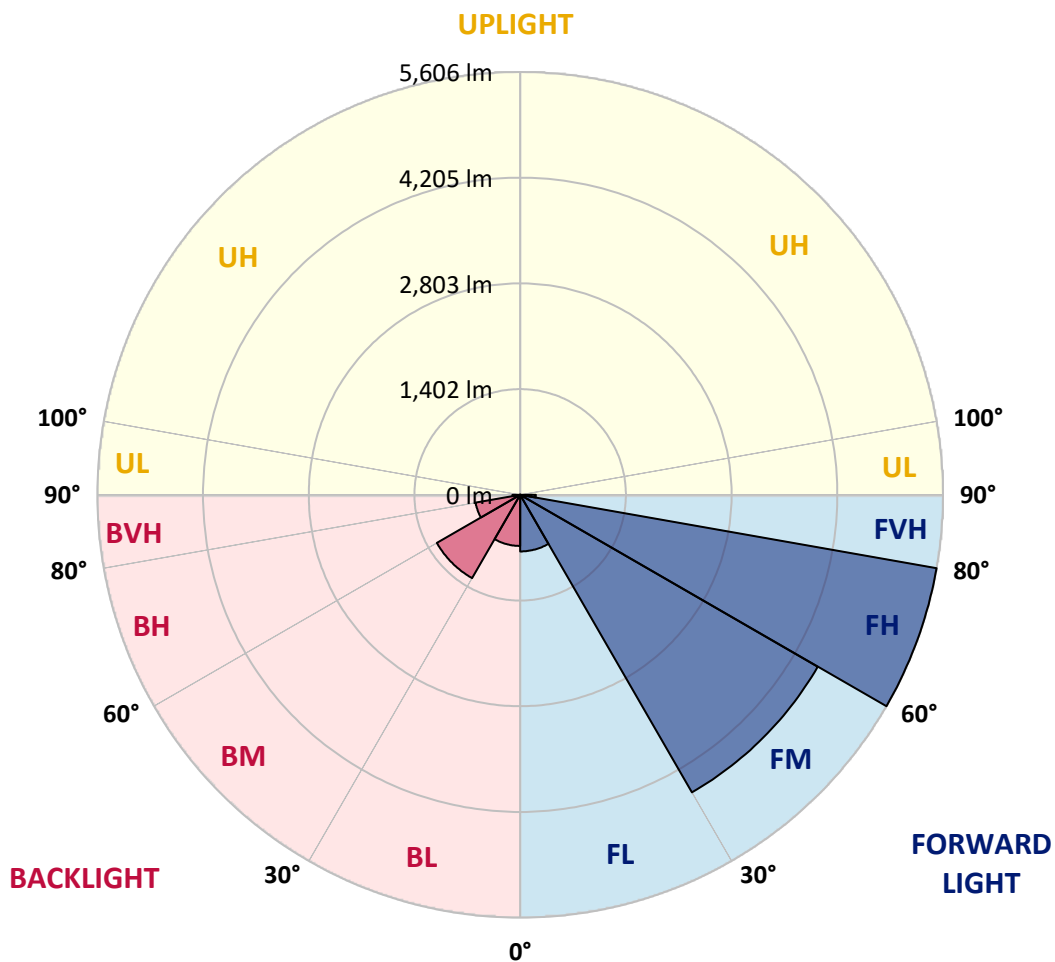
CATALOG NUMBER: NAV-AF-02-D-UNV-T4FT-1200

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	750.7	5.4			
FM	(30°-60°)	4555.2	33.1			
FH	(60°-80°)	5606.3	40.7			G3/7500
FVH	(80°-90°)	208.3	1.5			G2/225
BL	(0°-30°)	678.1	4.9	B2/1000		
BM	(30°-60°)	1275.9	9.3	B2/2500		
BH	(60°-80°)	600.3	4.4	B2/1000		G2/1000
BVH	(80°-90°)	102.3	0.7			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type IV Short





REPORT NUMBER: P196364

CATALOG NUMBER: NAV-AF-02-D-UNV-T4FT-1200

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	2086.8	2086.8	2086.8	2086.8	2086.8	2086.8	2086.8	2086.8	2086.8	2086.8	2086.8
2.5°	2007.1	2012.5	2013.3	2019.4	2019.4	2018.6	2021.1	2031.7	2036.9	2049.2	2059.7
5°	1908.2	1914.4	1917.0	1927.5	1940.6	1941.6	1951.2	1971.3	1990.6	2017.7	2040.5
7.5°	1797.1	1804.1	1811.1	1833.0	1852.3	1854.0	1872.4	1904.7	1930.1	1963.5	2004.6
10°	1689.4	1691.1	1698.2	1726.2	1751.6	1754.2	1780.4	1817.3	1851.3	1897.8	1944.1
12.5°	1601.0	1606.2	1604.5	1625.6	1647.4	1649.2	1684.2	1730.5	1780.4	1833.0	1888.2
15°	1570.3	1569.5	1551.1	1550.3	1559.9	1561.6	1595.8	1650.0	1706.1	1770.8	1841.7
17.5°	1591.4	1584.3	1536.3	1506.5	1500.4	1502.1	1527.5	1587.0	1646.5	1720.9	1805.8
20°	1706.9	1679.8	1566.9	1495.1	1475.0	1475.0	1489.8	1538.0	1603.7	1690.3	1797.1
22.5°	1980.9	1938.9	1698.2	1570.3	1499.4	1492.5	1481.1	1517.9	1590.5	1694.7	1833.0
25°	2325.8	2305.6	1938.9	1770.8	1624.7	1601.8	1526.7	1539.7	1617.7	1742.0	1931.0
27.5°	2645.4	2610.3	2254.9	2062.4	1855.7	1820.8	1661.4	1608.0	1682.4	1829.4	2072.8
30°	2831.7	2808.1	2579.7	2395.9	2149.8	2105.2	1876.7	1742.8	1797.9	1973.9	2274.1
32.5°	3034.8	3020.9	2905.3	2738.1	2468.5	2416.8	2155.2	1962.5	1974.8	2165.6	2516.7
35°	3231.8	3250.1	3184.5	3062.0	2811.6	2763.5	2528.8	2249.7	2192.8	2380.9	2775.8
37.5°	3468.1	3472.5	3431.4	3351.7	3172.3	3132.9	2939.4	2556.0	2429.9	2610.3	3026.1
40°	3939.9	3870.7	3709.7	3646.7	3539.9	3515.4	3294.8	2837.1	2650.6	2845.7	3262.4
42.5°	4450.2	4342.6	4090.5	3987.3	3944.3	3921.6	3590.7	3024.4	2857.1	3081.2	3494.4
45°	4861.7	4774.1	4527.3	4399.5	4404.7	4368.0	3849.0	3191.5	3081.2	3317.5	3753.5
47.5°	5267.0	5120.8	4844.2	4825.8	4887.0	4832.8	4095.8	3358.8	3315.0	3574.9	4012.6
50°	5293.3	5160.2	5048.2	5195.2	5300.2	5232.8	4319.8	3577.6	3557.4	3886.5	4347.0
52.5°	4973.7	4954.5	5125.2	5372.8	5547.1	5486.7	4502.8	3802.5	3805.2	4276.0	4754.1
55°	4857.3	4832.8	5037.6	5342.3	5577.7	5541.8	4639.4	4056.4	4080.0	4748.7	5190.9
57.5°	5053.4	4992.1	5032.4	5284.5	5505.9	5485.0	4781.2	4338.2	4381.1	5293.3	5594.3
60°	5661.7	5536.6	5323.0	5370.3	5508.6	5496.3	4984.2	4652.5	4724.3	5860.5	5849.9
62.5°	6573.0	6431.2	5996.1	5786.0	5755.4	5731.8	5319.4	5038.5	5074.3	6270.1	5701.1
65°	7572.6	7420.3	6903.0	6559.0	6378.7	6327.9	5860.5	5504.2	5279.2	6269.3	5121.7
67.5°	8694.9	8533.8	8018.2	7689.9	7494.8	7408.1	6738.4	5880.6	5212.7	5738.8	4098.4
70°	9844.2	9691.0	9454.6	9569.3	9655.1	9523.0	8121.5	6005.7	4734.7	4499.2	2752.0
72.5°	9234.1	9221.8	9401.2	10488.4	12141.9	12168.2	9502.8	5652.1	3658.1	2674.2	1467.1
73°	8667.7	8719.3	9052.0	10352.8	12354.7	12363.4	9529.9	5469.2	3358.8	2303.9	1288.5
75°	4490.5	4840.7	6074.9	8394.5	11440.0	11481.1	8400.7	4140.4	2001.9	1279.7	868.4
77.5°	1202.7	1186.9	1957.3	4089.7	7626.9	7572.6	5308.1	2004.6	959.4	802.7	609.3
80°	412.2	417.6	666.1	1496.0	3560.1	3686.9	2303.9	874.5	631.2	559.3	431.6
82.5°	210.1	217.1	348.4	636.4	1489.0	1457.5	741.4	514.7	422.8	339.6	241.6
85°	112.0	115.6	191.7	330.0	546.3	552.4	260.9	274.9	268.7	192.6	119.1
87.5°	55.1	56.9	91.9	145.3	202.2	195.2	91.0	119.1	132.2	108.5	65.7
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: P196364

CATALOG NUMBER: NAV-AF-02-D-UNV-T4FT-1200

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2086.8	2086.8	2086.8	2086.8	2086.8	2086.8	2086.8	2086.8	2086.8	2086.8	2086.8
2.5°	2072.8	2072.8	2084.2	2103.5	2117.5	2130.6	2139.4	2153.3	2161.2	2160.4	2159.4
5°	2058.8	2067.6	2090.3	2113.9	2129.7	2140.2	2140.2	2146.4	2146.4	2143.7	2140.2
7.5°	2026.5	2041.3	2074.5	2095.6	2099.9	2088.6	2065.8	2048.4	2026.5	2015.0	2010.7
10°	1974.8	1994.0	2036.1	2045.7	2022.9	1982.7	1927.5	1880.3	1838.2	1819.0	1812.9
12.5°	1924.0	1949.4	1988.8	1973.9	1919.7	1840.9	1756.0	1691.1	1643.9	1625.6	1619.4
15°	1882.0	1912.6	1943.3	1896.9	1802.3	1692.9	1599.3	1538.8	1503.0	1489.0	1485.4
17.5°	1854.0	1889.9	1900.3	1813.7	1682.4	1559.9	1476.7	1437.3	1421.6	1415.5	1413.7
20°	1855.7	1896.0	1870.7	1733.2	1566.9	1443.5	1388.3	1376.9	1376.9	1376.9	1376.1
22.5°	1903.9	1938.9	1858.4	1657.9	1455.7	1345.4	1321.8	1331.4	1338.4	1338.4	1337.5
25°	2003.7	2022.9	1867.1	1585.3	1351.5	1260.5	1261.4	1279.7	1285.8	1285.8	1284.1
27.5°	2156.0	2140.2	1882.8	1504.8	1249.1	1183.5	1195.7	1212.4	1216.7	1214.1	1213.2
30°	2346.9	2283.7	1896.0	1410.1	1152.9	1111.7	1122.2	1131.8	1128.3	1122.2	1121.4
32.5°	2560.3	2429.9	1888.2	1304.3	1068.0	1037.3	1043.4	1048.6	1043.4	1028.6	1028.6
35°	2772.2	2562.2	1845.2	1188.8	1000.5	965.5	964.6	981.2	980.4	962.9	963.7
37.5°	2957.8	2666.3	1762.0	1082.8	942.8	913.0	916.5	927.0	932.2	908.6	906.0
40°	3119.7	2738.1	1644.8	992.7	896.3	898.2	888.4	871.9	865.7	855.2	853.4
42.5°	3272.0	2788.0	1520.5	917.4	872.7	892.8	860.5	821.1	804.4	814.1	820.2
45°	3421.8	2844.0	1400.5	855.2	842.9	877.1	832.5	788.7	769.5	773.8	779.9
47.5°	3604.7	2922.0	1256.1	788.7	797.5	848.2	815.0	767.7	738.8	721.3	716.1
50°	3845.4	3034.8	1068.8	716.9	749.3	816.7	800.0	737.0	705.5	670.5	661.7
52.5°	4146.5	3141.6	879.7	659.1	709.9	789.5	775.6	710.7	672.3	630.2	623.3
55°	4446.8	3156.5	716.9	609.3	665.2	752.8	745.8	689.8	635.5	601.4	594.3
57.5°	4656.9	3015.6	607.5	567.2	622.4	707.3	718.6	664.4	604.9	578.6	574.2
60°	4660.4	2678.6	540.9	539.2	589.9	667.9	690.7	634.6	585.6	568.1	564.6
62.5°	4290.1	2158.6	498.1	518.2	566.3	635.5	669.6	618.0	581.2	574.2	570.7
65°	3596.0	1594.9	463.9	499.0	544.5	608.3	652.1	612.7	579.5	576.8	574.2
67.5°	2655.0	1093.3	435.1	474.4	520.0	580.3	635.5	604.9	569.0	579.5	576.0
70°	1670.2	730.1	408.0	446.4	487.5	548.0	613.7	590.9	555.9	549.7	538.4
72.5°	942.8	527.8	375.5	410.5	445.6	505.0	583.9	567.2	526.1	501.6	490.2
73°	851.7	499.8	367.6	401.8	435.9	496.3	576.8	560.3	517.3	490.2	479.7
75°	623.3	408.8	331.7	365.9	395.7	456.0	543.6	525.2	478.8	446.4	439.5
77.5°	451.6	315.2	285.4	316.0	342.3	400.1	493.7	472.7	427.2	409.7	402.6
80°	325.6	239.0	236.3	266.1	288.9	347.5	440.3	418.4	374.6	426.3	414.9
82.5°	194.4	153.1	173.3	206.5	230.3	291.5	382.5	357.1	315.2	318.6	271.4
85°	92.8	86.6	107.7	135.6	152.3	199.6	318.6	298.5	252.1	206.5	202.2
87.5°	41.1	39.4	51.7	60.4	81.4	119.9	218.0	193.4	182.9	109.5	85.8
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)