

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: P270464

Luminaire Tested: **NAV-AF-03-D-UNV-T2R-7027-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270464
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24459)
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-T2R-7027-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 2700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18091.7 lumens
Efficiency: N/A
Efficacy: 94.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Semi-Cutoff
BUG Rating: B2 - U0 - G2

Input Watts (W): 191
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

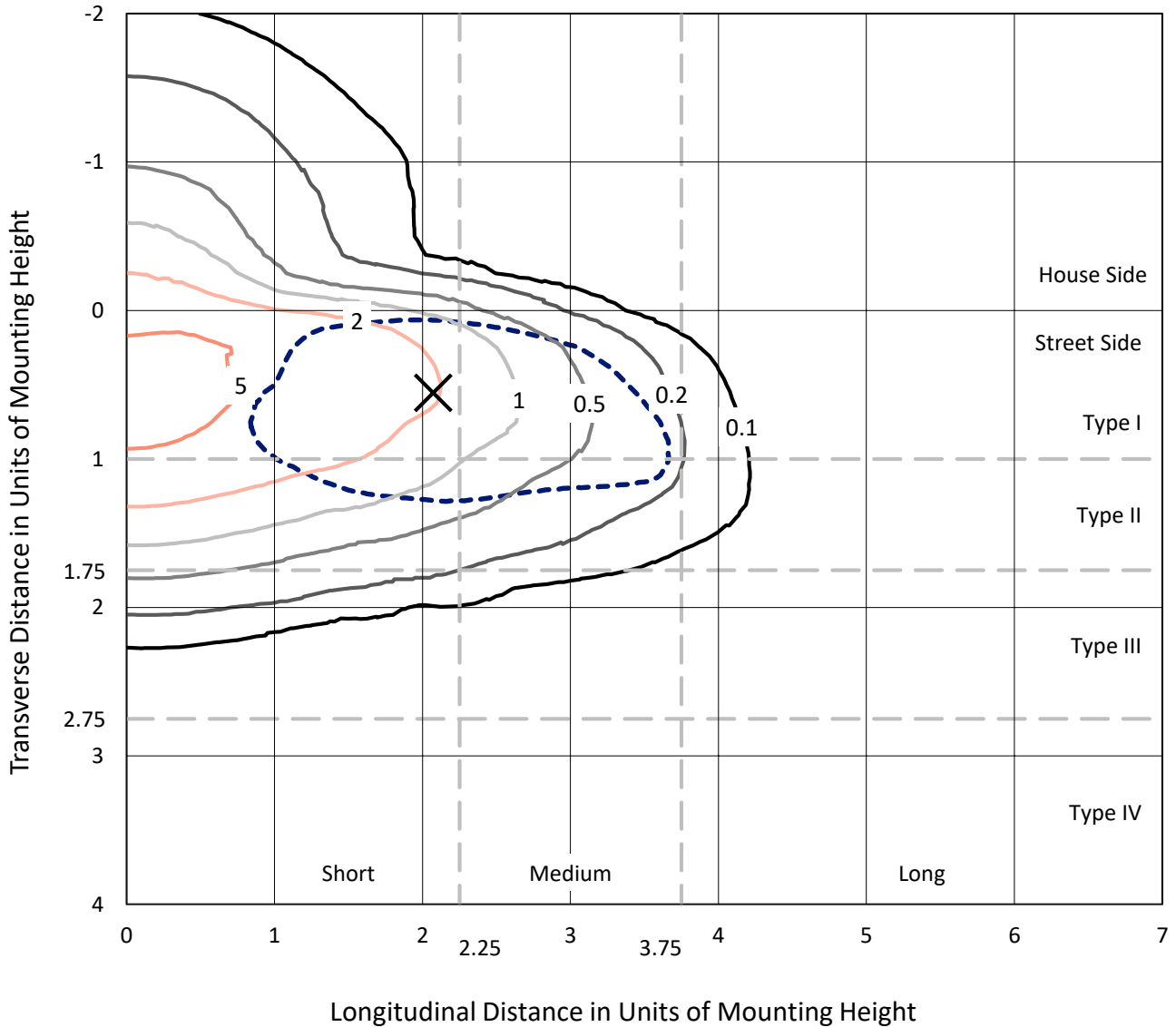


REPORT NUMBER: P270464

CATALOG NUMBER: NAV-AF-03-D-UNV-T2R-7027-1200

Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

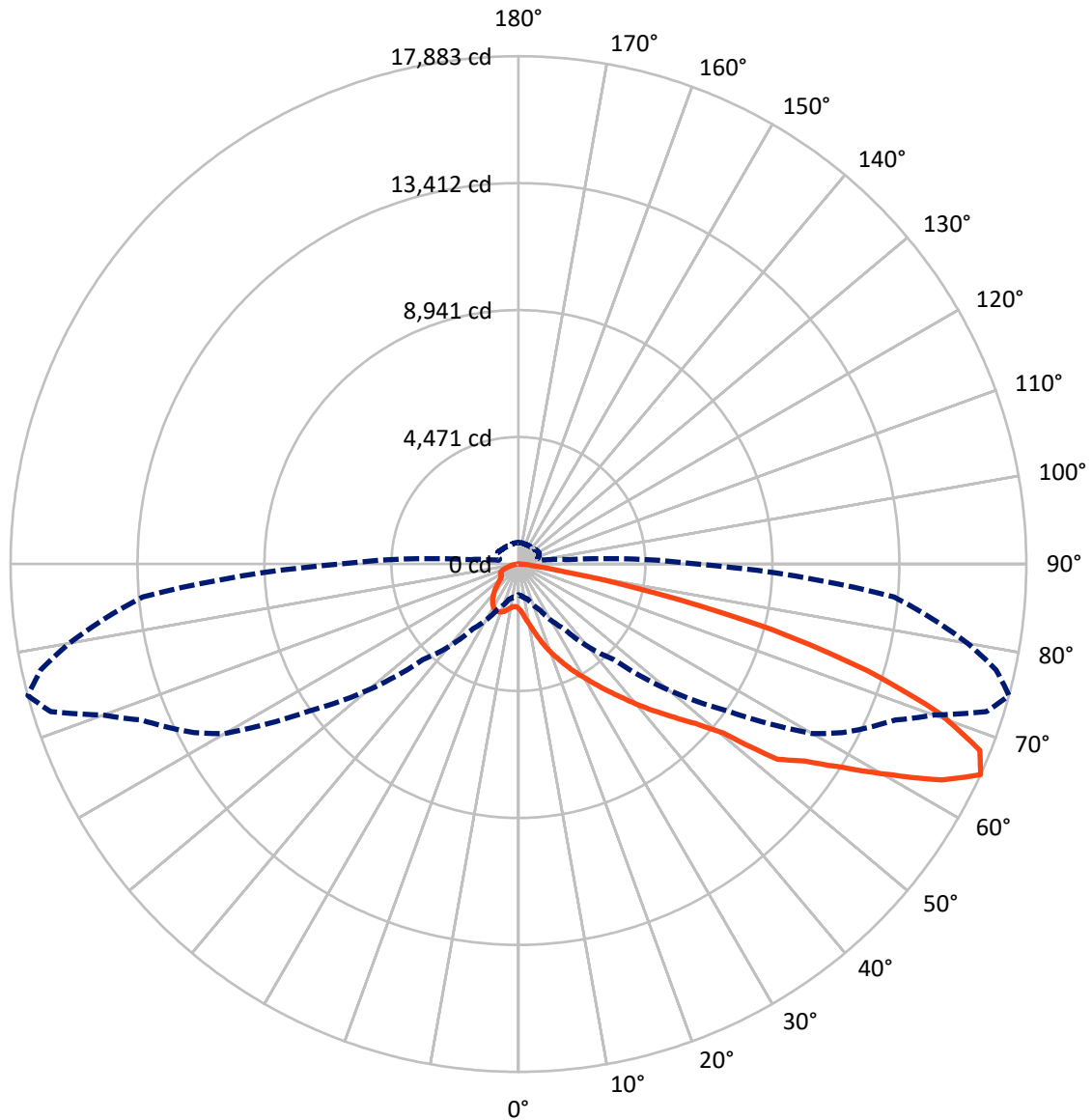


Based on 25 foot mounting height. Maximum calculated value = 7.2 fc
 Type II - Short - Semi-Cutoff

REPORT NUMBER: P270464

CATALOG NUMBER: NAV-AF-03-D-UNV-T2R-7027-1200

Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

REPORT NUMBER: P270464

CATALOG NUMBER: NAV-AF-03-D-UNV-T2R-7027-1200

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2718.6	0.0	2718.6
	% Fixture	15.0	0.0	15.0
Street Side	Lumens	15373.1	0.0	15373.1
	% Fixture	85.0	0.0	85.0
Total	Lumens	18091.7	0.0	18091.7
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	185.1	1.0
10°-20°	706.8	3.9
20°-30°	1426.5	7.9
30°-40°	2422.5	13.4
40°-50°	3378.8	18.7
50°-60°	4141.2	22.9
60°-70°	3896.3	21.5
70°-80°	1708.5	9.4
80°-90°	226.1	1.2
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°	18091.7	100.0
0°-180°	18091.7	100.0



REPORT NUMBER: P270464

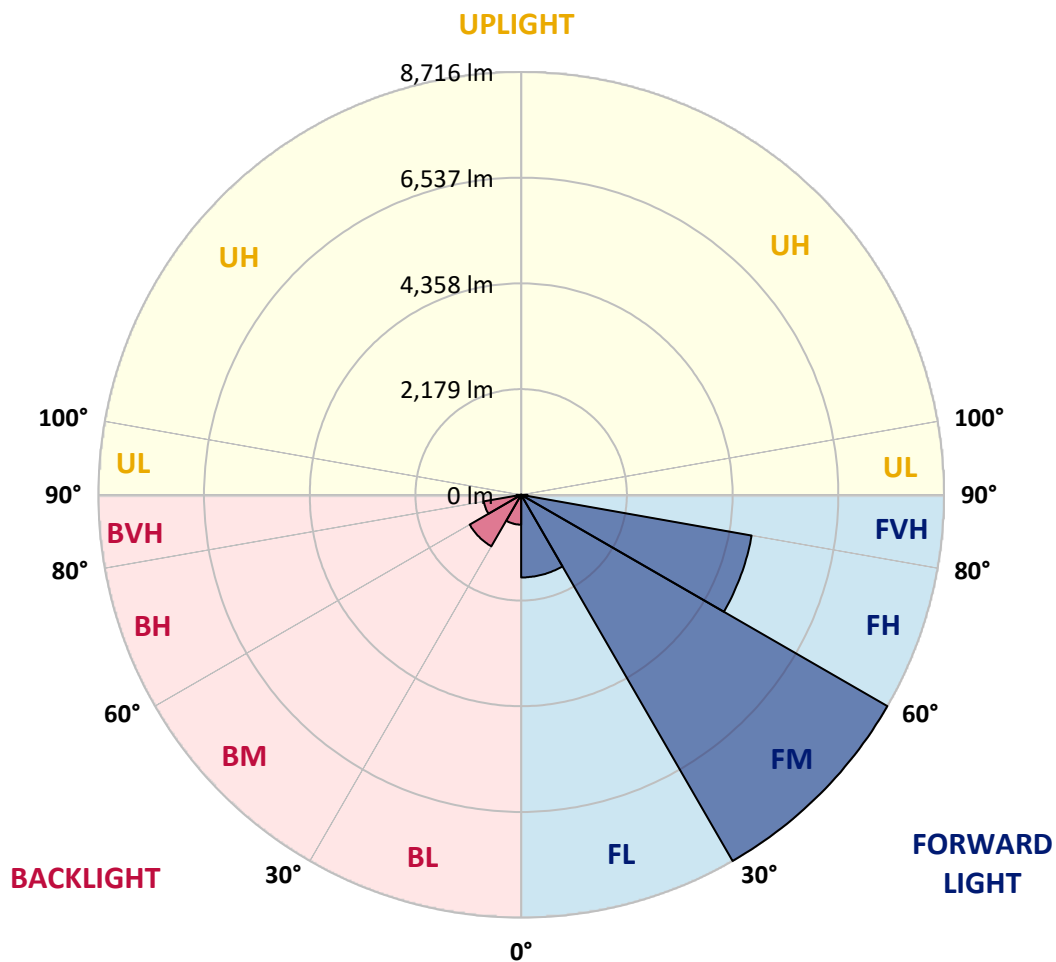
CATALOG NUMBER: NAV-AF-03-D-UNV-T2R-7027-1200

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1702.9	9.4			
FM (30°-60°)	8715.7	48.2			
FH (60°-80°)	4823.4	26.7			G2/5000
FVH (80°-90°)	131.1	0.7			G2/225
BL (0°-30°)	615.4	3.4	B2/1000		
BM (30°-60°)	1226.8	6.8	B2/2500		
BH (60°-80°)	781.4	4.3	B2/1000		G2/1000
BVH (80°-90°)	95.0	0.5			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 II Short





REPORT NUMBER: P270464

CATALOG NUMBER: NAV-AF-03-D-UNV-T2R-7027-1200

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57.5°	60°	62.5°	65°
0°	1567.5	1567.5	1567.5	1567.5	1567.5	1567.5	1567.5	1567.5	1567.5	1567.5	1567.5
2.5°	1973.8	1950.8	1953.1	1920.8	1873.7	1821.9	1779.4	1756.2	1736.8	1730.9	1698.8
5°	2581.5	2552.8	2542.4	2468.7	2358.2	2227.0	2097.0	2046.2	2004.8	1979.5	1917.4
7.5°	3078.8	3063.7	3049.8	2982.1	2872.7	2704.6	2495.1	2420.4	2351.4	2275.3	2200.5
10°	3417.1	3411.3	3405.6	3358.4	3267.4	3121.3	2895.6	2814.0	2727.7	2631.0	2533.1
12.5°	3672.5	3672.5	3677.1	3638.0	3582.8	3470.0	3265.1	3189.2	3101.7	3000.3	2888.8
15°	3843.9	3848.6	3872.9	3884.4	3855.5	3783.0	3603.6	3536.7	3453.9	3353.7	3243.2
17.5°	3957.9	3967.2	4002.8	4040.8	4077.6	4052.3	3918.9	3856.7	3781.9	3689.8	3586.3
20°	4222.7	4211.2	4212.3	4200.8	4254.9	4274.4	4200.8	4149.0	4089.2	4005.2	3910.9
22.5°	4778.5	4756.6	4700.3	4556.5	4490.8	4483.9	4440.2	4412.6	4366.5	4313.7	4219.2
25°	5503.6	5478.4	5366.7	5129.6	4933.9	4753.2	4672.7	4655.3	4625.6	4589.8	4521.9
27.5°	6252.8	6225.3	6081.3	5782.1	5526.6	5161.8	4910.9	4887.9	4860.3	4845.3	4813.1
30°	6912.3	6882.5	6740.8	6437.1	6128.5	5693.5	5232.0	5151.4	5104.3	5108.9	5090.4
32.5°	7491.2	7464.7	7305.9	6996.3	6683.3	6260.8	5648.6	5523.1	5417.3	5378.2	5391.9
35°	7976.9	7952.8	7779.0	7467.2	7151.8	6800.7	6185.0	5996.1	5823.6	5715.3	5702.7
37.5°	8262.3	8248.5	8126.5	7861.8	7548.7	7291.0	6785.7	6576.2	6321.9	6164.2	6095.2
40°	8246.3	8261.3	8240.4	8120.8	7878.0	7690.3	7411.8	7204.6	6956.0	6721.3	6580.9
42.5°	8011.4	8032.1	8125.3	8187.5	8121.9	8008.0	7958.5	7804.3	7580.9	7332.4	7137.9
45°	7689.2	7707.5	7828.5	8052.9	8240.4	8272.8	8437.3	8360.2	8171.4	7959.6	7745.5
47.5°	7195.5	7231.1	7371.5	7728.3	8174.8	8485.6	8839.0	8874.6	8765.3	8590.3	8390.1
50°	6480.7	6528.0	6724.7	7232.3	7926.3	8704.2	9436.2	9572.1	9528.3	9351.0	9148.5
52.5°	5748.8	5796.0	6058.3	6598.1	7525.8	8794.0	10024.4	10371.9	10622.8	10805.8	10841.6
55°	4986.9	5039.9	5327.6	5949.0	6991.8	8680.1	10444.5	10839.2	11093.6	11284.6	11361.8
57.5°	4127.2	4187.0	4465.6	5093.8	6236.8	8222.0	10911.7	11471.0	11849.7	12144.4	12310.1
60°	3140.8	3215.7	3504.5	4137.6	5244.7	7345.1	11119.9	11947.5	12549.4	12991.4	13253.9
62.5°	1991.1	2067.0	2367.5	3024.6	4115.7	6147.0	10530.8	11738.1	12764.6	13418.4	13899.5
65°	1086.5	1119.8	1286.7	1781.6	2774.9	4769.3	9036.9	10460.6	11939.5	12866.0	13604.8
67.5°	814.9	819.4	836.7	957.6	1477.7	3220.2	7065.3	8369.4	10011.7	11204.0	12086.8
70°	713.6	713.6	715.9	716.9	802.1	1744.8	4786.6	5987.1	7492.4	8698.6	9795.4
72.5°	640.0	632.9	630.7	616.9	628.4	894.3	2605.7	3684.0	4953.6	6307.0	7330.1
75°	552.5	551.3	551.3	537.5	544.4	629.5	1130.2	1767.8	2751.8	4012.0	5019.1
77.5°	477.5	469.5	470.7	462.6	484.5	482.2	536.3	728.5	1198.1	2107.3	2942.8
80°	393.5	387.9	391.3	386.7	421.2	356.7	361.4	445.4	594.9	924.1	1302.8
82.5°	291.2	293.4	315.3	313.1	354.6	240.6	264.7	332.6	400.6	460.3	500.6
85°	170.3	173.8	226.7	238.2	260.1	126.7	162.2	197.9	223.3	247.5	257.9
87.5°	18.4	24.2	126.7	130.1	116.2	38.0	65.5	82.9	88.7	94.4	82.9
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: P270464

CATALOG NUMBER: NAV-AF-03-D-UNV-T2R-7027-1200

CANDELA DISTRIBUTION (continued):

	67.5°	70°	72.5°	75°	77.5°	80°	85°	90°	95°	100°	102.5°
0°	1567.5	1567.5	1567.5	1567.5	1567.5	1567.5	1567.5	1567.5	1567.5	1567.5	1567.5
2.5°	1688.4	1673.5	1657.4	1648.1	1632.0	1618.1	1592.9	1572.2	1549.0	1533.0	1526.1
5°	1886.4	1850.7	1812.7	1785.0	1750.5	1720.7	1663.0	1594.0	1572.2	1526.1	1514.6
7.5°	2144.2	2079.7	2015.3	1962.3	1902.4	1852.9	1756.2	1632.0	1616.0	1542.2	1526.1
10°	2446.9	2352.4	2256.9	2175.2	2087.8	2011.8	1869.1	1694.2	1676.9	1582.5	1566.4
12.5°	2785.1	2670.1	2547.0	2425.0	2321.4	2214.3	2019.7	1790.9	1763.3	1651.5	1629.6
15°	3133.8	3009.6	2866.9	2719.6	2591.8	2450.2	2205.1	1917.4	1866.8	1735.5	1705.6
17.5°	3478.1	3343.4	3193.7	3029.2	2879.5	2710.4	2405.4	2058.9	1971.5	1818.3	1780.4
20°	3810.6	3673.7	3516.1	3354.9	3168.4	2975.0	2610.3	2198.2	2064.8	1887.5	1838.0
22.5°	4113.2	3995.9	3838.3	3653.0	3464.3	3246.7	2818.5	2337.5	2146.4	1940.3	1877.1
25°	4432.1	4325.1	4168.6	3990.2	3770.4	3528.6	3033.8	2469.8	2212.0	1969.3	1890.9
27.5°	4754.4	4662.4	4515.1	4327.3	4091.5	3823.2	3252.5	2591.8	2264.9	1978.3	1884.0
30°	5098.5	5027.2	4891.4	4681.8	4443.6	4146.7	3490.8	2711.5	2298.4	1965.8	1852.9
32.5°	5424.2	5421.9	5301.1	5083.6	4827.0	4500.0	3741.6	2832.4	2315.7	1930.1	1798.9
35°	5762.5	5809.8	5718.8	5511.7	5241.3	4878.6	4018.9	2961.3	2316.8	1866.8	1728.7
37.5°	6147.0	6231.1	6190.7	5993.9	5709.6	5310.3	4344.7	3106.2	2309.8	1779.4	1626.2
40°	6584.3	6699.4	6698.2	6532.6	6228.7	5793.7	4723.3	3268.6	2293.7	1669.9	1505.4
42.5°	7084.9	7222.0	7259.9	7096.5	6789.2	6321.9	5157.2	3446.9	2268.4	1561.8	1377.6
45°	7658.1	7779.0	7850.3	7698.4	7389.9	6897.4	5655.5	3649.5	2237.4	1422.6	1231.4
47.5°	8271.6	8412.0	8518.9	8388.9	8059.8	7553.4	6245.9	3910.9	2225.8	1263.6	1073.8
50°	9032.3	9177.4	9408.7	9350.0	9169.3	8761.8	7494.6	4527.6	2230.4	1112.9	941.5
52.5°	10919.7	11252.3	11544.7	11414.7	10985.4	10286.9	8509.7	4870.6	2133.7	989.8	849.3
55°	11489.5	11867.0	12298.5	12244.4	11832.5	11128.2	9312.0	5157.2	2040.6	900.0	789.5
57.5°	12486.1	12931.6	13534.7	13523.2	13017.9	12224.9	10344.3	5500.1	2000.3	848.2	759.5
60°	13541.5	14108.9	14942.1	15072.2	14523.3	13698.1	11564.3	5921.4	2006.1	819.4	742.3
62.5°	14312.7	15144.7	16356.7	16745.7	16098.9	15189.6	12830.3	6342.7	1971.5	786.0	721.6
65°	14359.9	15557.9	17277.5	17882.6	17227.9	16059.7	13276.8	6259.7	1764.4	741.2	688.2
67.5°	13208.9	14769.6	16858.4	17522.5	16852.7	15523.4	12494.2	5472.6	1434.1	662.9	630.7
70°	11001.5	12813.1	14981.4	15721.3	15167.7	13822.4	10873.8	4371.2	1071.5	559.4	544.4
72.5°	8501.6	10191.2	12160.4	12845.3	12421.8	11238.5	8576.6	3185.7	765.4	453.5	442.0
75°	6077.9	7516.6	8946.0	9207.2	8789.5	7703.0	5564.6	1989.9	536.3	371.8	355.5
77.5°	3763.4	4699.2	5212.4	4876.4	4343.6	3610.4	2264.9	982.8	356.7	302.6	286.6
80°	1669.9	1960.0	1829.9	1630.9	1287.9	1058.8	691.6	436.1	230.1	233.6	224.4
82.5°	561.6	593.9	577.8	574.2	518.0	453.5	293.4	188.7	128.8	149.6	146.2
85°	274.0	286.6	287.7	298.1	258.9	201.4	79.4	74.7	55.2	80.6	84.0
87.5°	82.9	84.0	75.9	82.9	66.7	46.1	14.9	20.8	10.4	19.6	19.6
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: P270464

CATALOG NUMBER: NAV-AF-03-D-UNV-T2R-7027-1200

CANDELA DISTRIBUTION (continued):

	105°	107.5°	110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°
0°	1567.5	1567.5	1567.5	1567.5	1567.5	1567.5	1567.5	1567.5	1567.5	1567.5	1567.5
2.5°	1513.5	1508.9	1500.8	1491.5	1489.3	1477.7	1474.3	1468.5	1465.0	1459.3	1454.7
5°	1499.6	1491.5	1482.4	1472.1	1472.1	1456.0	1449.0	1442.0	1442.0	1431.7	1427.0
7.5°	1513.5	1503.0	1492.8	1483.6	1487.0	1468.5	1461.6	1454.7	1453.5	1443.2	1438.6
10°	1552.6	1542.2	1529.5	1520.3	1516.9	1502.0	1493.9	1483.6	1476.6	1469.6	1462.8
12.5°	1612.4	1598.7	1582.5	1563.0	1554.8	1542.2	1529.5	1515.7	1499.6	1492.8	1482.4
15°	1683.8	1660.7	1638.9	1614.8	1592.9	1580.2	1563.0	1541.0	1519.3	1510.1	1496.1
17.5°	1742.4	1718.3	1687.2	1658.5	1619.4	1609.0	1584.8	1558.3	1522.6	1519.3	1498.5
20°	1791.9	1755.1	1717.1	1682.6	1622.8	1616.9	1587.0	1556.0	1505.4	1505.4	1480.0
22.5°	1819.5	1768.9	1724.0	1678.0	1603.2	1598.7	1564.0	1527.3	1465.0	1467.4	1436.3
25°	1824.2	1763.3	1706.8	1651.5	1565.2	1557.2	1513.5	1473.2	1405.3	1400.6	1368.4
27.5°	1805.8	1734.4	1668.8	1602.0	1508.9	1491.5	1443.2	1394.9	1328.1	1316.6	1282.2
30°	1763.3	1679.2	1605.5	1528.3	1430.6	1403.0	1352.3	1302.8	1234.9	1220.0	1187.6
32.5°	1695.3	1599.7	1518.0	1440.9	1332.7	1298.2	1247.6	1198.1	1132.6	1120.9	1091.0
35°	1605.5	1498.5	1412.1	1330.4	1222.2	1186.7	1138.2	1094.6	1034.7	1030.0	1009.3
37.5°	1492.8	1381.1	1289.0	1210.7	1108.2	1090.0	1040.3	1008.2	958.8	963.3	952.9
40°	1365.0	1251.0	1163.6	1094.6	1005.9	989.8	959.8	935.7	893.2	905.9	906.8
42.5°	1236.1	1122.2	1042.8	980.6	904.7	894.3	873.5	859.7	827.5	852.9	863.2
45°	1090.0	984.1	916.1	868.9	812.5	812.5	802.1	801.0	779.2	814.9	825.3
47.5°	948.3	865.4	818.3	789.5	750.4	768.8	765.4	774.6	758.4	795.3	804.5
50°	841.4	783.9	754.9	741.2	713.6	742.3	749.2	761.9	748.1	780.3	787.3
52.5°	773.4	735.4	719.4	715.9	696.2	731.9	743.4	754.9	738.9	768.8	767.6
55°	735.4	710.1	704.4	711.3	696.2	730.9	742.3	750.4	736.6	757.4	756.2
57.5°	721.6	707.9	711.3	721.6	711.3	740.1	745.9	754.9	741.2	750.4	754.9
60°	720.5	720.5	734.3	748.1	741.2	761.9	765.4	764.2	751.5	752.7	754.9
62.5°	713.6	730.9	753.9	775.6	773.4	798.8	801.0	786.0	775.6	764.2	760.8
65°	691.6	720.5	753.9	783.9	788.4	827.5	832.1	817.2	810.2	790.7	775.6
67.5°	643.4	680.1	719.4	756.2	764.2	817.2	827.5	833.3	836.7	824.0	804.5
70°	561.6	599.6	640.0	682.5	694.0	752.7	774.6	801.0	821.7	840.2	833.3
72.5°	456.9	491.5	526.0	565.2	582.3	643.4	672.1	718.1	750.4	797.5	817.2
75°	362.6	383.2	404.0	428.1	442.0	501.9	537.5	592.7	636.4	702.0	745.9
77.5°	285.4	295.8	306.1	316.6	322.2	355.5	384.5	439.6	490.3	573.2	637.5
80°	219.8	225.6	226.7	230.1	227.9	244.0	254.3	287.7	331.5	413.2	489.1
82.5°	141.6	146.2	148.5	154.1	142.7	163.4	170.3	173.8	196.8	256.6	310.8
85°	79.4	80.6	81.7	84.0	67.9	88.7	89.8	84.0	81.7	105.9	119.7
87.5°	19.6	18.4	19.6	19.6	8.1	18.4	18.4	12.7	9.3	17.2	13.8
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: P270464

CATALOG NUMBER: NAV-AF-03-D-UNV-T2R-7027-1200

CANDELA DISTRIBUTION (continued):

	135°	145°	155°	165°	175°	180°
0°	1567.5	1567.5	1567.5	1567.5	1567.5	1567.5
2.5°	1444.4	1442.0	1443.2	1437.5	1435.2	1436.3
5°	1421.4	1416.7	1416.7	1413.4	1408.7	1408.7
7.5°	1431.7	1422.6	1419.1	1412.1	1405.3	1406.3
10°	1447.9	1431.7	1420.2	1409.9	1401.7	1401.7
12.5°	1458.2	1429.5	1412.1	1398.3	1389.1	1389.1
15°	1460.6	1416.7	1391.5	1376.6	1367.3	1367.3
17.5°	1446.7	1391.5	1359.2	1339.6	1329.3	1331.6
20°	1412.1	1344.3	1306.2	1285.6	1275.2	1276.3
22.5°	1358.1	1279.8	1236.1	1212.0	1201.6	1201.6
25°	1284.3	1199.2	1152.0	1132.6	1123.3	1123.3
27.5°	1200.3	1112.9	1071.5	1056.5	1050.7	1050.7
30°	1106.1	1033.5	1003.5	993.3	984.1	984.1
32.5°	1026.7	974.8	964.5	950.6	926.5	925.3
35°	963.3	957.6	949.5	908.0	873.5	868.9
37.5°	928.8	963.3	912.7	841.4	813.7	812.5
40°	910.3	942.6	855.1	820.6	817.2	817.2
42.5°	866.7	889.6	851.7	832.1	832.1	833.3
45°	820.6	840.2	859.7	842.5	848.2	849.3
47.5°	788.4	827.5	859.7	844.8	856.3	863.2
50°	758.4	816.0	842.5	842.5	855.1	856.3
52.5°	751.5	799.9	826.4	838.9	840.2	834.3
55°	752.7	787.3	813.7	829.9	822.8	822.8
57.5°	751.5	780.3	803.4	809.2	812.5	812.5
60°	752.7	771.1	789.5	787.3	798.8	798.8
62.5°	756.2	758.4	767.6	765.4	782.7	782.7
65°	764.2	742.3	736.6	738.9	759.5	758.4
67.5°	779.2	720.5	702.0	703.3	733.1	728.5
70°	801.0	690.5	662.9	656.0	706.6	698.6
72.5°	807.9	656.0	612.3	605.4	635.3	612.3
75°	775.6	628.4	558.1	535.2	522.5	515.5
77.5°	691.6	611.1	501.9	453.5	433.9	429.3
80°	573.2	575.5	428.1	370.6	430.5	429.3
82.5°	432.8	497.2	343.0	321.1	311.9	260.1
85°	209.5	374.1	263.6	221.0	132.4	125.5
87.5°	18.4	156.6	152.0	99.0	44.8	42.6
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)