

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: P195744

Luminaire Tested: **NAV-AF-06-D-UNV-SLL-7050-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195744
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24264)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-06-D-UNV-SLL-7050-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 5000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT
ELIMINATOR LEFT OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 34901 lumens
Efficiency: N/A
Efficacy: 91.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B3 - U0 - G5

Input Watts (W): 382
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

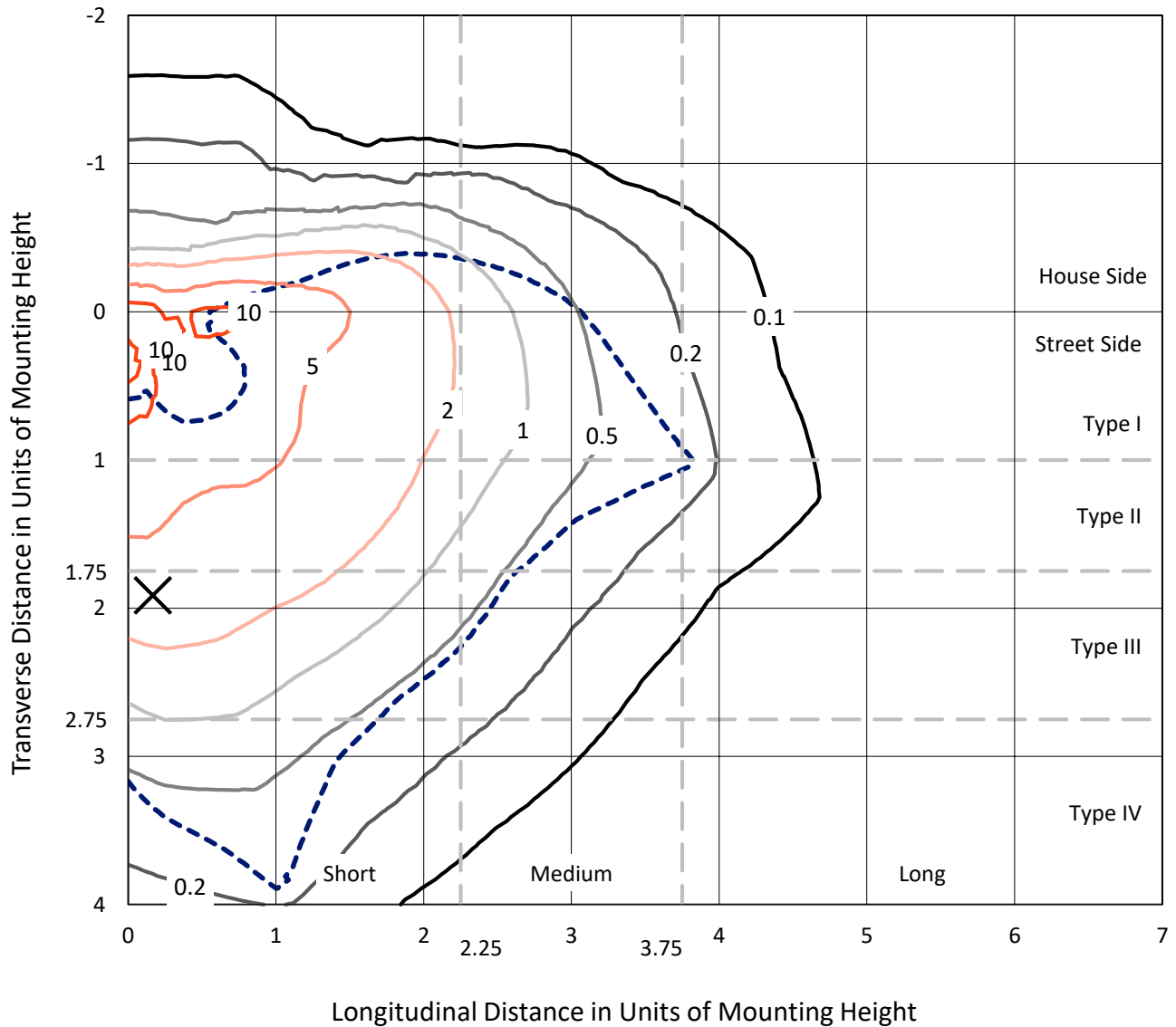


REPORT NUMBER: P195744

CATALOG NUMBER: NAV-AF-06-D-UNV-SLL-7050-1200

Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd
 - - - 1/2 Max cd

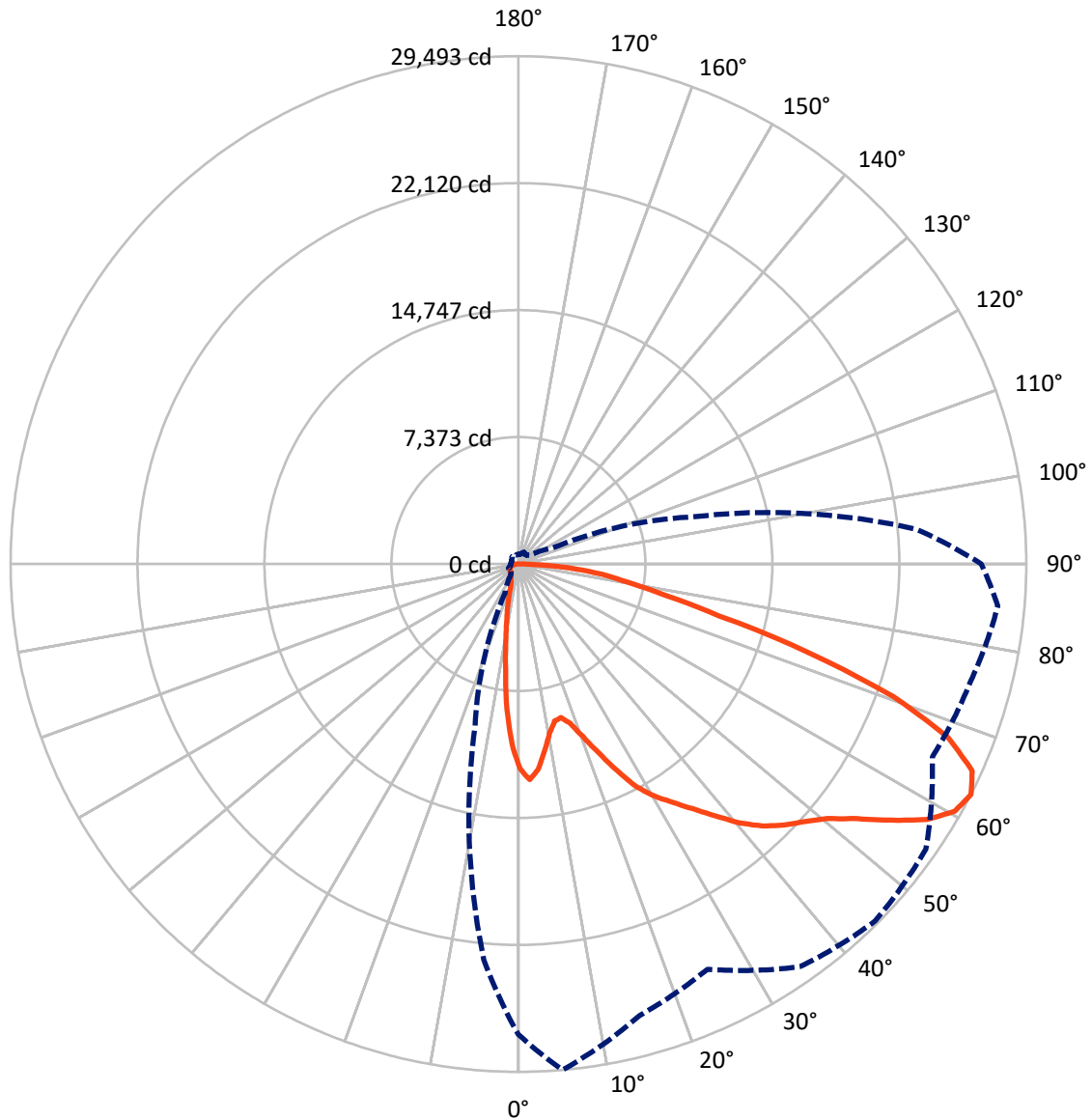


Based on 30 foot mounting height. Maximum calculated value = 15.2 fc
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P195744

CATALOG NUMBER: NAV-AF-06-D-UNV-SLL-7050-1200

Luminous Intensity Polar Plot



— Vertical Plane Through 5-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

REPORT NUMBER: P195744

CATALOG NUMBER: NAV-AF-06-D-UNV-SLL-7050-1200

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	6182.8	0.0	6182.8
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	28718.2	0.0	28718.2
	% Fixture	82.3	0.0	82.3
Total	Lumens	34901.0	0.0	34901.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	865.3	2.5
10°-20°	1580.5	4.5
20°-30°	2273.2	6.5
30°-40°	3481.6	10.0
40°-50°	5090.1	14.6
50°-60°	7406.2	21.2
60°-70°	8581.1	24.6
70°-80°	4473.2	12.8
80°-90°	1149.9	3.3
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°	34901.0	100.0
0°-180°	34901.0	100.0



REPORT NUMBER: P195744

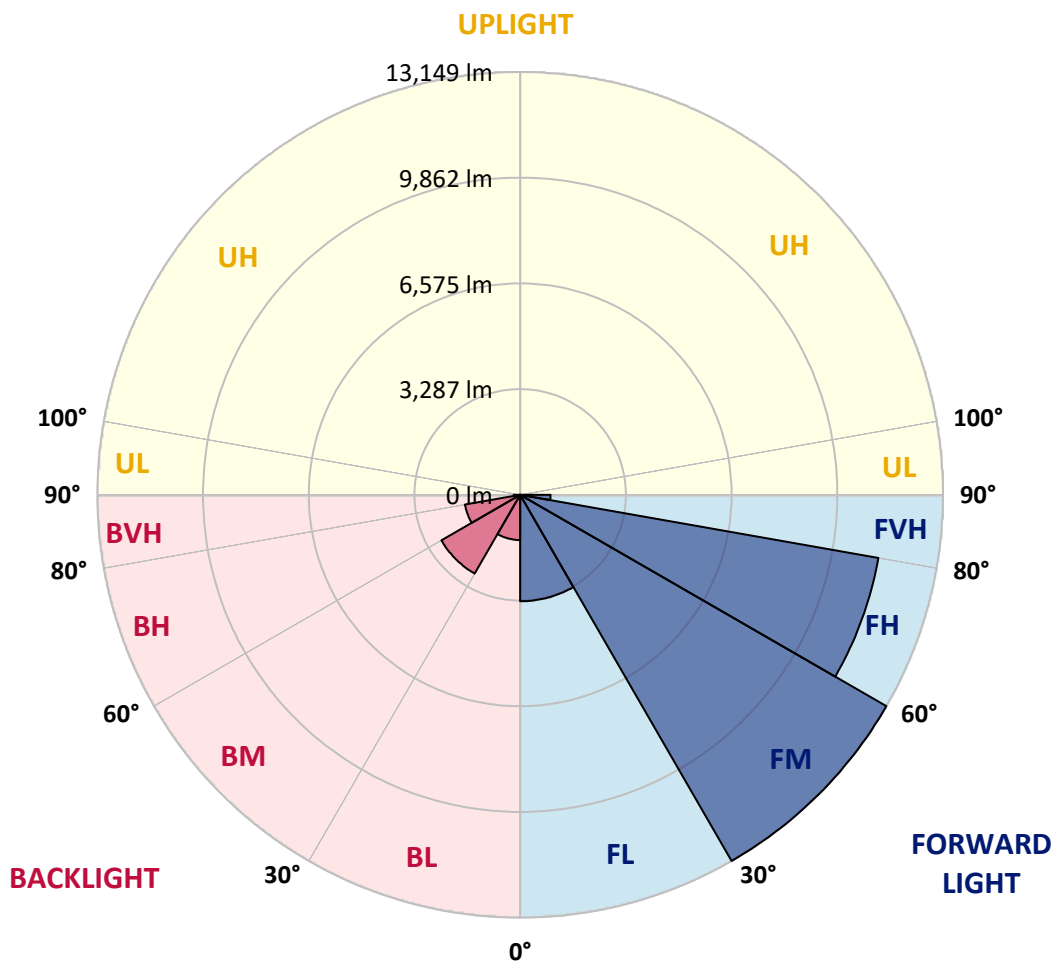
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	3312.3	9.5			
FM (30°-60°)	13149.1	37.7			
FH (60°-80°)	11310.9	32.4			G4/12000
FVH (80°-90°)	946.0	2.7			G5
BL (0°-30°)	1406.7	4.0	B3/2500		
BM (30°-60°)	2828.8	8.1	B3/5000		
BH (60°-80°)	1743.4	5.0	B3/2500		G3/2500
BVH (80°-90°)	203.9	0.6			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G5

Type IV Short





REPORT NUMBER: P195744

CATALOG NUMBER: NAV-AF-06-D-UNV-SLL-7050-1200

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	11898.4	11898.4	11898.4	11898.4	11898.4	11898.4	11898.4	11898.4	11898.4	11898.4	11898.4
2.5°	12283.1	12543.7	12842.3	13232.0	13497.7	13604.0	13692.6	13543.3	13399.0	13128.3	13032.1
5°	11473.3	11974.4	12796.8	13578.7	14267.0	14661.8	14783.2	14507.4	14016.5	13307.9	12933.4
7.5°	10271.3	10931.8	12088.2	13239.6	14226.5	14884.4	14932.5	14385.9	13419.3	12257.8	11650.5
10°	9221.2	9967.7	11306.3	12594.3	13639.4	14312.6	14181.0	13414.2	12247.7	10926.7	10241.0
12.5°	8611.3	9357.8	10721.8	12030.0	13014.4	13270.0	13001.7	12356.5	11250.6	9927.2	9236.4
15°	8482.3	9251.5	10514.3	11617.6	12227.4	12062.9	11797.2	11470.8	10683.8	9600.7	8932.7
17.5°	8872.0	9732.3	10790.1	11394.9	11369.6	10974.8	10752.1	10815.4	10681.3	9955.0	9256.6
20°	9674.1	10691.4	11491.0	11334.1	10686.3	10132.2	10003.1	10499.1	11119.0	10843.2	10076.5
22.5°	10729.4	11888.3	12447.6	11508.7	10329.5	9732.3	9707.0	10481.4	11916.2	12186.9	11253.2
25°	11921.2	13272.5	13411.7	11817.5	10291.6	9696.9	9674.1	10754.7	12875.2	13518.0	12571.6
27.5°	13378.8	14669.4	14216.4	12229.9	10458.6	9800.7	9815.8	11220.3	13874.8	14833.8	14057.0
30°	14477.0	15661.3	14712.4	12634.8	10726.8	9982.9	10020.8	11723.8	14413.8	15747.3	15243.8
32.5°	15504.4	16509.0	15188.1	13034.6	11119.0	10253.6	10385.2	12351.4	15061.6	16531.8	16364.8
35°	16640.6	17458.0	15717.0	13462.3	11680.8	10729.4	10919.1	12948.6	15704.3	17316.3	17475.7
37.5°	17928.6	18543.6	16291.4	14067.1	12490.6	11610.0	11716.2	13558.5	16152.2	18184.2	18667.6
40°	19269.8	19760.7	16919.0	14874.3	13667.3	12799.3	12849.9	14340.4	16504.0	19082.6	19824.0
42.5°	20421.2	20803.3	17549.1	15876.4	15018.6	14011.4	14054.4	15183.0	16840.5	19856.9	20750.2
45°	21342.3	21623.2	18143.7	16931.6	16461.0	15524.7	15514.5	16040.9	17291.0	20509.8	21461.2
47.5°	22200.1	22349.4	18806.7	17959.0	17956.5	17473.2	17111.3	17053.1	17890.7	21058.9	22081.2
50°	23182.0	23237.7	19682.3	18996.5	19783.5	19707.6	19039.5	18338.6	18667.6	21676.3	22731.5
52.5°	24548.5	24551.0	20767.9	20008.7	21800.3	22040.7	21263.9	19793.6	19816.4	22878.3	23855.1
55°	26155.3	26266.7	22182.4	21220.8	23910.8	24320.7	23589.4	21522.0	21466.3	24816.7	25677.1
57.5°	27397.8	27987.4	23829.8	22736.6	25882.0	26416.0	25826.4	23313.6	23493.2	26815.8	27180.2
60°	27747.0	29126.1	25472.1	24437.1	27549.6	28351.8	27752.1	25249.4	25477.1	28113.9	27612.9
62.5°	27329.5	29493.1	27144.8	25960.5	28539.1	29308.3	28878.2	26517.2	27094.1	27946.9	26881.6
65°	26092.1	28961.7	28597.3	26608.3	27969.7	28243.0	28129.1	26583.0	27972.2	26367.9	24859.7
67.5°	23202.2	26911.9	27949.5	25224.1	25310.1	25016.6	24867.3	24776.2	26985.3	23819.7	21671.3
70°	18870.0	23123.8	24859.7	21109.5	20471.8	20188.4	19697.5	20912.1	24254.9	20294.7	17835.0
72.5°	14535.2	17690.8	20390.8	16002.9	14676.9	14773.1	14216.4	15990.3	20092.2	15689.1	13616.7
75°	10321.9	12062.9	16276.2	11498.6	9742.5	9737.4	9694.4	11508.7	15853.6	11260.8	9962.6
77.5°	7439.7	8684.7	12751.2	7695.3	6913.3	7001.9	6860.2	7821.8	12359.0	8100.2	7381.5
80°	5934.0	6430.0	8241.9	5131.9	5147.1	5354.6	5324.2	5349.5	8130.5	5865.7	5519.0
82.5°	4263.9	4881.3	6301.0	3932.4	3403.5	3623.7	3666.7	3967.8	5736.7	4147.5	3638.9
85°	2186.4	2975.9	5797.4	3406.1	2128.2	1763.8	2029.5	3130.2	4982.6	2485.0	1773.9
87.5°	425.1	824.9	4248.7	1892.8	956.5	483.3	797.1	1326.0	2897.4	450.4	220.2
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: P195744

CATALOG NUMBER: NAV-AF-06-D-UNV-SLL-7050-1200

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	11898.4	11898.4	11898.4	11898.4	11898.4	11898.4	11898.4	11898.4	11898.4	11898.4	11898.4
2.5°	12867.6	12543.7	12240.1	11926.3	11683.4	11387.3	11096.3	10843.2	10597.8	10435.8	10486.4
5°	12553.8	11764.3	11055.8	10397.9	10013.2	9550.1	9137.7	8791.0	8522.7	8350.7	8454.4
7.5°	11124.1	10056.2	9122.5	8254.5	7707.9	7108.2	6627.4	6288.3	6080.8	5964.4	6134.0
10°	9661.5	8462.0	7414.4	6511.0	5972.0	5463.4	5028.1	4668.8	4390.4	4258.8	4327.2
12.5°	8613.8	7280.3	6182.0	5574.7	5111.6	4656.1	4205.7	3785.6	3431.4	3269.4	3236.5
15°	8221.6	6645.1	5524.1	4845.9	4385.4	3889.4	3403.5	2953.1	2616.5	2477.4	2447.0
17.5°	8393.7	6508.5	5134.4	4332.2	3664.2	3061.9	2515.3	2090.2	1842.2	1763.8	1771.4
20°	8998.5	6559.1	4820.6	3803.4	2978.4	2264.8	1718.2	1424.7	1318.4	1300.7	1320.9
22.5°	9828.5	6766.6	4592.9	3347.9	2373.6	1647.4	1277.9	1138.7	1110.9	1108.4	1128.6
25°	10924.2	7171.5	4441.0	2943.0	1875.1	1305.7	1113.4	1035.0	1012.2	1017.3	1037.5
27.5°	12214.8	7685.2	4342.4	2593.8	1541.1	1164.0	1040.0	971.7	948.9	954.0	969.2
30°	13394.0	8135.6	4195.6	2330.6	1384.2	1113.4	999.6	931.2	900.9	900.9	911.0
32.5°	14449.2	8525.3	4023.5	2133.2	1239.9	999.6	905.9	852.8	830.0	837.6	842.7
35°	15385.5	8730.3	3889.4	2016.8	1123.5	921.1	827.5	771.8	741.4	746.5	754.1
37.5°	16306.6	8808.7	3800.8	1953.6	1040.0	873.0	787.0	741.4	708.5	703.5	701.0
40°	17182.1	8791.0	3717.3	1935.8	984.4	837.6	761.7	721.2	688.3	680.7	678.2
42.5°	17938.8	8732.8	3638.9	1887.8	946.4	812.3	741.4	706.0	673.1	663.0	657.9
45°	18629.6	8697.4	3552.8	1799.2	966.7	802.2	731.3	693.4	663.0	650.3	645.3
47.5°	19396.3	8823.9	3456.7	1703.0	961.6	804.7	731.3	688.3	657.9	645.3	640.2
50°	20309.9	9251.5	3337.7	1571.4	916.0	860.4	728.8	680.7	652.9	645.3	635.2
52.5°	21600.4	9944.9	3173.3	1401.9	880.6	918.6	726.3	668.1	645.3	632.6	620.0
55°	23369.2	10638.3	2960.7	1222.2	824.9	878.1	731.3	652.9	627.6	614.9	599.7
57.5°	24819.2	11164.6	2692.5	1072.9	774.3	830.0	723.7	635.2	607.3	594.7	582.0
60°	24725.6	11215.2	2436.9	976.8	744.0	746.5	741.4	622.5	589.6	579.5	569.4
62.5°	23194.6	10590.2	2199.0	928.7	721.2	680.7	756.6	607.3	571.9	561.8	554.2
65°	20646.4	9135.1	2072.5	928.7	701.0	645.3	660.5	587.1	554.2	544.1	539.0
67.5°	17415.0	7341.0	1953.6	948.9	673.1	620.0	599.7	566.8	536.5	526.3	521.3
70°	13958.3	5777.1	1870.0	938.8	647.8	592.1	566.8	539.0	508.6	506.1	501.0
72.5°	10949.5	4641.0	1832.1	938.8	609.9	559.2	533.9	513.7	483.3	480.8	473.2
75°	8773.3	3484.5	1675.2	921.1	571.9	516.2	493.4	475.7	445.4	447.9	442.8
77.5°	6794.4	2464.7	1399.4	830.0	523.8	468.1	450.4	437.8	402.4	404.9	404.9
80°	5314.1	1604.3	1085.6	688.3	468.1	412.5	399.8	389.7	351.7	356.8	356.8
82.5°	3641.4	954.0	787.0	554.2	402.4	351.7	349.2	334.0	293.5	296.1	301.1
85°	1989.0	627.6	523.8	409.9	316.3	285.9	280.9	273.3	235.3	235.3	237.9
87.5°	366.9	336.6	308.7	270.8	212.6	205.0	197.4	205.0	177.1	172.1	172.1
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: P195744

CATALOG NUMBER: NAV-AF-06-D-UNV-SLL-7050-1200

CANDELA DISTRIBUTION (continued):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	11898.4	11898.4	11898.4	11898.4	11898.4	11898.4	11898.4	11898.4	11898.4	11898.4	11898.4
2.5°	10367.5	10192.9	10071.4	9965.1	9709.6	9727.3	9762.7	9813.3	9653.9	9737.4	9841.1
5°	8350.7	8206.4	8097.6	7928.1	7571.3	7444.8	7363.8	7328.3	7090.5	7141.1	7252.4
7.5°	6156.7	6154.2	6116.2	5926.4	5496.3	5235.6	5063.5	5010.4	4863.6	4919.3	5088.9
10°	4334.8	4380.3	4362.6	4193.1	3808.4	3621.2	3583.2	3689.5	3692.0	3800.8	4091.8
12.5°	3132.8	3107.5	3084.7	2945.5	2657.0	2626.7	2712.7	2859.5	2894.9	3011.3	3315.0
15°	2338.2	2277.5	2264.8	2156.0	1966.2	1994.0	2057.3	2133.2	2135.7	2216.7	2467.2
17.5°	1753.6	1753.6	1773.9	1703.0	1566.4	1553.7	1520.8	1500.6	1470.2	1503.1	1639.8
20°	1361.4	1424.7	1475.3	1434.8	1310.8	1250.1	1186.8	1146.3	1123.5	1126.1	1166.6
22.5°	1166.6	1217.2	1283.0	1262.7	1159.0	1080.5	1040.0	1012.2	994.5	994.5	1017.3
25°	1067.9	1100.8	1161.5	1151.4	1062.8	999.6	966.7	938.8	918.6	916.0	938.8
27.5°	989.4	1009.7	1050.2	1045.1	954.0	913.5	893.3	875.6	862.9	860.4	883.1
30°	918.6	928.7	948.9	941.3	873.0	832.5	824.9	817.4	809.8	812.3	845.2
32.5°	855.3	862.9	875.6	865.4	799.6	764.2	751.6	741.4	733.8	741.4	779.4
35°	784.5	807.2	822.4	817.4	746.5	703.5	675.6	650.3	640.2	647.8	690.8
37.5°	723.7	761.7	781.9	776.9	703.5	652.9	617.4	612.4	612.4	622.5	665.5
40°	701.0	728.8	746.5	738.9	665.5	614.9	594.7	587.1	589.6	599.7	645.3
42.5°	680.7	706.0	711.1	695.9	622.5	589.6	577.0	566.8	571.9	584.5	630.1
45°	663.0	683.2	680.7	657.9	587.1	564.3	564.3	556.7	559.2	569.4	617.4
47.5°	650.3	660.5	655.4	632.6	561.8	544.1	551.7	551.7	556.7	564.3	612.4
50°	630.1	637.7	632.6	612.4	541.5	526.3	533.9	544.1	549.1	556.7	599.7
52.5°	609.9	614.9	612.4	592.1	521.3	511.2	511.2	521.3	531.4	541.5	579.5
55°	589.6	594.7	597.2	582.0	506.1	496.0	493.4	493.4	503.6	518.8	559.2
57.5°	574.4	574.4	579.5	569.4	490.9	478.3	465.6	468.1	480.8	493.4	533.9
60°	556.7	559.2	566.8	556.7	470.7	450.4	440.3	453.0	458.0	470.7	513.7
62.5°	541.5	541.5	546.6	539.0	453.0	432.7	425.1	437.8	437.8	450.4	493.4
65°	528.9	526.3	526.3	523.8	435.2	415.0	409.9	415.0	417.5	430.2	473.2
67.5°	518.8	506.1	506.1	511.2	417.5	397.3	394.8	394.8	397.3	412.5	450.4
70°	496.0	485.9	483.3	501.0	399.8	374.5	374.5	369.5	374.5	382.1	422.6
72.5°	470.7	463.1	460.6	485.9	382.1	349.2	344.1	341.6	344.1	351.7	389.7
75°	437.8	432.7	437.8	475.7	364.4	321.4	313.8	311.3	311.3	313.8	354.3
77.5°	399.8	394.8	432.7	442.8	354.3	288.5	280.9	275.8	270.8	270.8	316.3
80°	354.3	351.7	417.5	374.5	339.1	253.1	240.4	232.8	227.7	225.2	270.8
82.5°	308.7	303.7	356.8	293.5	280.9	207.5	189.8	174.6	167.0	167.0	207.5
85°	253.1	250.5	280.9	215.1	194.8	151.8	126.5	113.9	103.8	103.8	134.1
87.5°	184.7	179.7	174.6	129.1	98.7	68.3	48.1	45.5	40.5	38.0	55.7
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: P195744

CATALOG NUMBER: NAV-AF-06-D-UNV-SLL-7050-1200

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	11898.4	11898.4	11898.4	11898.4	11898.4	11898.4	11898.4	11898.4
2.5°	9995.5	10205.5	10602.8	10929.3	11364.5	11713.7	12111.0	12283.1
5°	7457.4	7788.9	8396.2	8915.0	9633.6	10299.2	11058.3	11473.3
7.5°	5349.5	5840.4	6301.0	6948.8	7847.1	8740.4	9722.2	10271.3
10°	4425.9	4876.3	5271.0	5731.6	6425.0	7429.6	8601.2	9221.2
12.5°	3666.7	4152.6	4570.1	5063.5	5645.6	6554.0	7890.1	8611.3
15°	2811.4	3340.3	3841.3	4436.0	5149.6	6187.1	7677.6	8482.3
17.5°	1925.7	2492.5	3110.0	3836.2	4696.6	6032.7	7880.0	8872.0
20°	1308.3	1723.3	2393.9	3254.2	4289.2	5959.3	8325.4	9674.1
22.5°	1075.5	1262.7	1766.3	2707.6	3955.2	6040.3	9049.1	10729.4
25°	986.9	1088.1	1374.1	2226.8	3699.6	6255.4	10028.4	11921.2
27.5°	931.2	1017.3	1204.5	1882.7	3464.3	6549.0	11220.3	13378.8
30°	898.3	979.3	1136.2	1705.6	3249.2	6802.0	12245.1	14477.0
32.5°	824.9	885.7	1014.7	1604.3	3094.8	7007.0	13148.5	15504.4
35°	736.4	809.8	916.0	1538.5	3089.7	7103.1	13998.8	16640.6
37.5°	703.5	774.3	852.8	1503.1	3120.1	7184.1	15038.8	17928.6
40°	683.2	746.5	809.8	1498.1	3145.4	7247.4	16056.1	19269.8
42.5°	665.5	728.8	802.2	1462.6	3135.3	7333.4	16956.9	20421.2
45°	660.5	723.7	819.9	1409.5	3132.8	7467.5	17673.1	21342.3
47.5°	655.4	751.6	814.8	1351.3	3122.6	7750.9	18480.3	22200.1
50°	650.3	802.2	779.4	1270.3	3046.7	8234.3	19565.9	23182.0
52.5°	647.8	809.8	741.4	1159.0	2910.1	8950.4	21155.0	24548.5
55°	637.7	769.3	675.6	1012.2	2712.7	9722.2	22858.1	26155.3
57.5°	614.9	685.8	637.7	868.0	2429.3	10261.2	24115.7	27397.8
60°	670.6	589.6	612.4	794.6	2090.2	10357.4	24171.4	27747.0
62.5°	640.2	536.5	587.1	769.3	1852.3	9729.8	23065.6	27329.5
65°	511.2	508.6	564.3	794.6	1816.9	8325.4	21198.1	26092.1
67.5°	465.6	488.4	541.5	824.9	1839.7	6559.1	18449.9	23202.2
70°	435.2	463.1	511.2	852.8	1880.2	5167.3	14854.1	18870.0
72.5°	404.9	427.7	480.8	880.6	1852.3	4076.6	11888.3	14535.2
75°	366.9	387.2	437.8	807.2	1589.2	2996.1	9446.4	10321.9
77.5°	323.9	341.6	384.6	637.7	1194.4	2085.1	7075.3	7439.7
80°	278.4	285.9	318.8	465.6	779.4	1247.5	5384.9	5934.0
82.5°	220.2	222.7	242.9	341.6	485.9	797.1	3735.0	4263.9
85°	141.7	146.8	156.9	240.4	326.4	511.2	1908.0	2186.4
87.5°	48.1	55.7	55.7	116.4	159.4	283.4	584.5	425.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)