

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: INVUE

Report Number: P401798

Luminaire Tested: **ENT-SA1F-727-U-SLL**

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401798
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2004-754-7)
Test Lab: INNOVATION CENTER
Issue Date: 5/20/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: ENT-SA1F-727-U-SLL
Description: ENTRI LED LUMINAIRE
(1) 70 CRI, 2700K, 1200mA LIGHTSQUARE WITH 16 LEDS AND SPILL LIGHT ELIMINATOR LEFT OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5758 lumens
Efficiency: N/A
Efficacy: 87.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B1 - U0 - G2

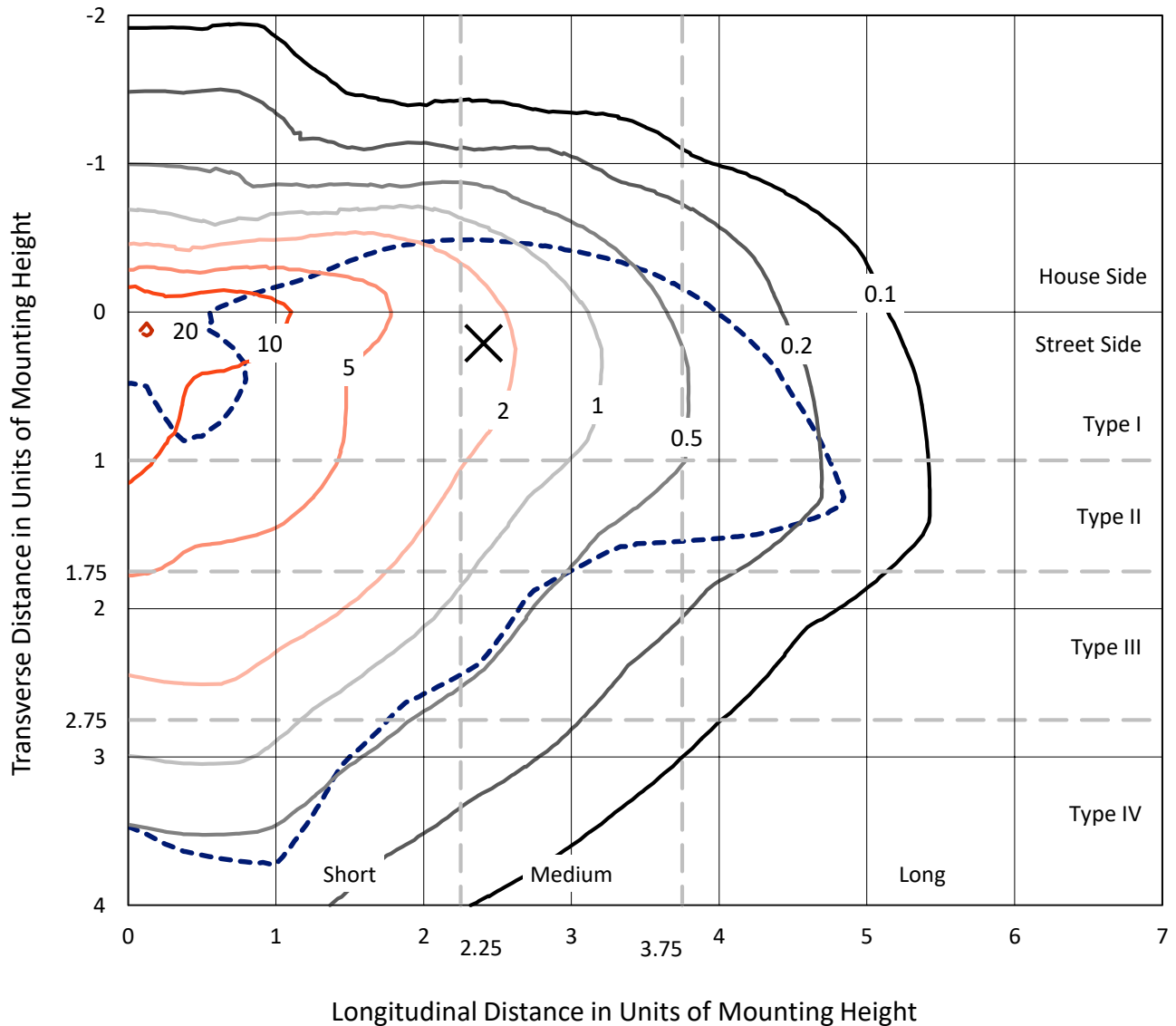
Input Watts (W): 66.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P401798
 CATALOG NUMBER: ENT-SA1F-727-U-SLL

Iso-Footcandle Lines of Horizontal Illumination

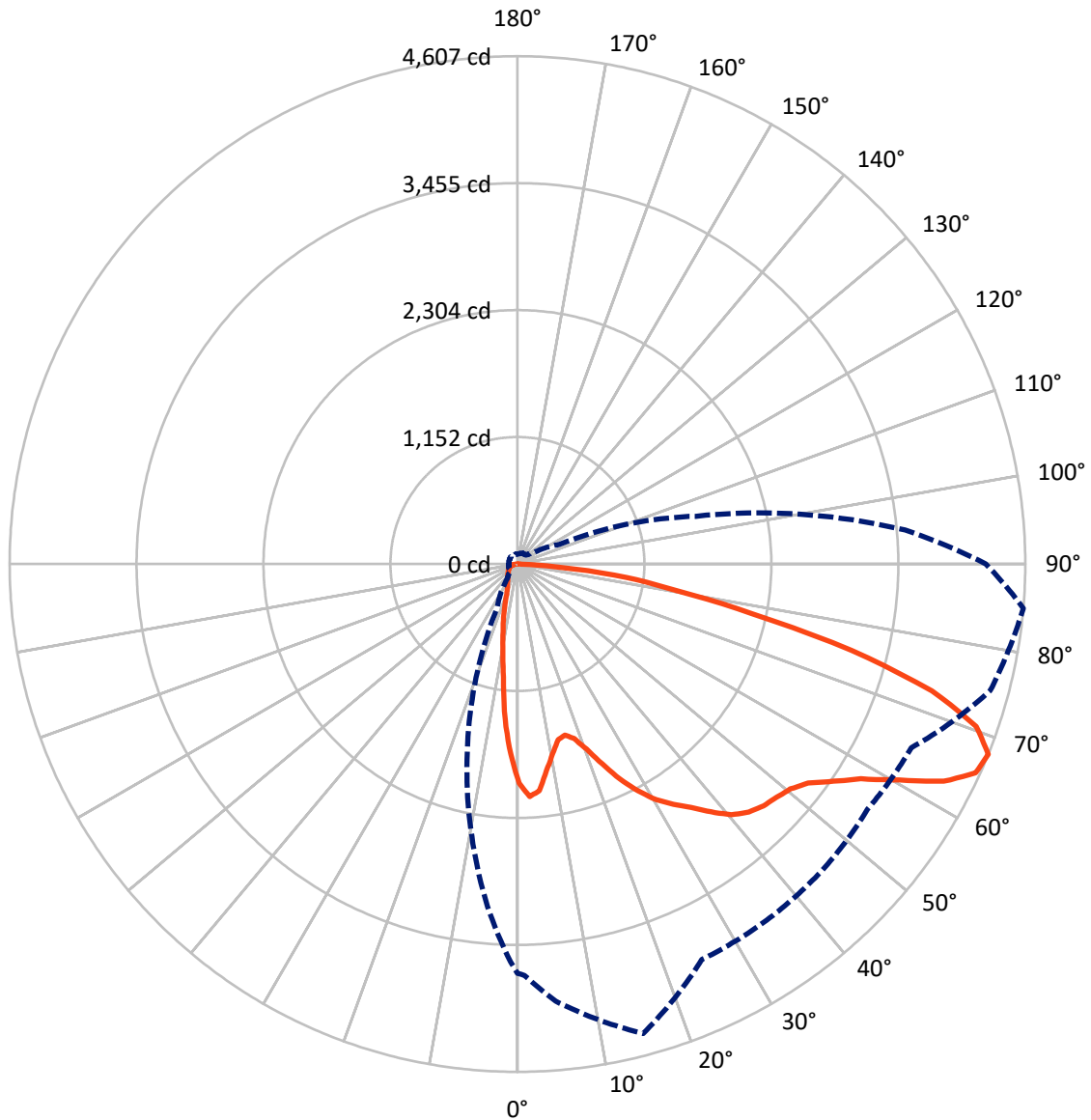
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 21.2 fc
 Type III - Medium - Non-Cutoff

REPORT NUMBER: P401798
CATALOG NUMBER: ENT-SA1F-727-U-SLL

Luminous Intensity Polar Plot



— Vertical Plane Through 85-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

REPORT NUMBER: P401798

CATALOG NUMBER: ENT-SA1F-727-U-SLL

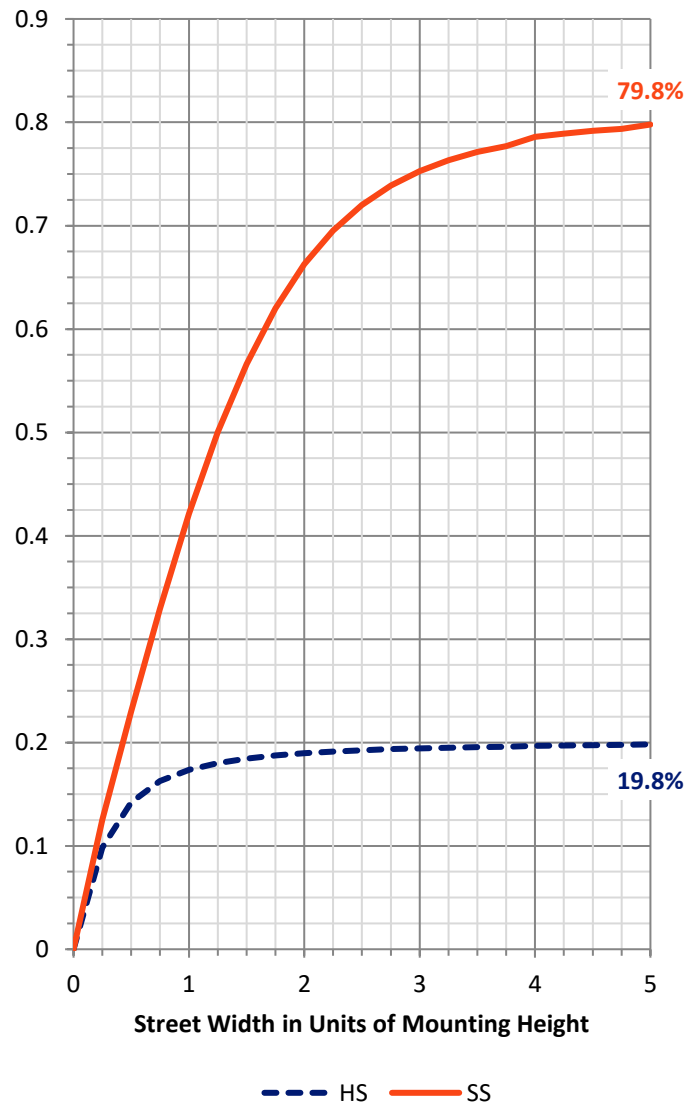
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1160.1	0.0	1160.1
	% Fixture	20.1	0.0	20.1
Street Side	Lumens	4597.9	0.0	4597.9
	% Fixture	79.9	0.0	79.9
Total	Lumens	5758.0	0.0	5758.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	151.3	2.6
10°-20°	298.3	5.2
20°-30°	416.8	7.2
30°-40°	587.5	10.2
40°-50°	814.1	14.1
50°-60°	1143.9	19.9
60°-70°	1398.5	24.3
70°-80°	821.9	14.3
80°-90°	125.9	2.2
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°	5758.0	100.0
0°-180°	5758.0	100.0



REPORT NUMBER: P401798

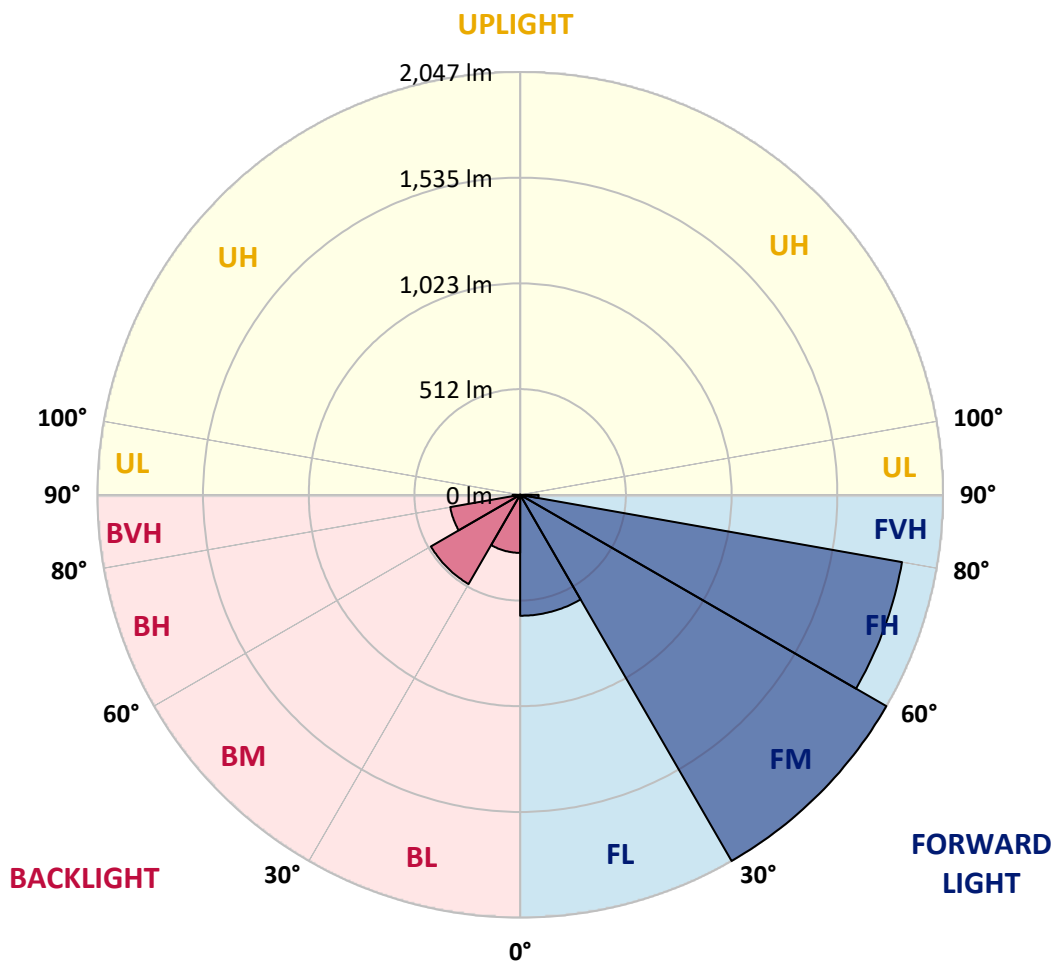
CATALOG NUMBER: ENT-SA1F-727-U-SLL

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	585.3	10.2			
FM	(30°-60°)	2046.7	35.5			
FH	(60°-80°)	1876.7	32.6			G2/5000
FVH	(80°-90°)	89.1	1.5			G1/100
BL	(0°-30°)	281.0	4.9	B1/500		
BM	(30°-60°)	498.7	8.7	B1/1000		
BH	(60°-80°)	343.6	6.0	B1/500		G1/500
BVH	(80°-90°)	36.8	0.6			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type III Medium





REPORT NUMBER: P401798

CATALOG NUMBER: ENT-SA1F-727-U-SLL

CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1989.3	1989.3	1989.3	1989.3	1989.3	1989.3	1989.3	1989.3	1989.3	1989.3	1989.3
2.5°	2043.9	2034.6	2066.1	2112.4	2143.9	2166.1	2173.5	2172.6	2166.1	2148.5	2111.5
5°	1953.2	1944.8	2008.7	2111.5	2201.3	2266.1	2284.6	2258.7	2226.3	2157.8	2067.0
7.5°	1781.0	1794.0	1875.4	2019.8	2164.2	2267.0	2292.0	2251.2	2184.6	2044.8	1892.1
10°	1650.5	1657.0	1748.6	1922.6	2076.3	2181.8	2225.3	2189.2	2102.2	1925.4	1748.6
12.5°	1569.9	1576.4	1665.3	1826.4	1990.2	2072.6	2085.6	2084.6	2012.4	1841.2	1636.6
15°	1581.1	1589.4	1678.3	1811.6	1904.1	1940.2	1941.1	1951.3	1930.0	1799.5	1609.8
17.5°	1688.4	1688.4	1773.6	1854.1	1832.8	1806.9	1826.4	1844.9	1881.9	1824.5	1664.4
20°	1857.8	1865.2	1943.9	1930.0	1800.4	1735.6	1712.5	1744.9	1859.7	1899.5	1793.0
22.5°	2041.1	2060.6	2142.9	2041.1	1794.9	1669.0	1643.1	1678.3	1862.5	2018.0	1969.8
25°	2243.8	2267.9	2323.5	2170.7	1811.6	1632.0	1614.4	1647.7	1869.9	2127.2	2160.5
27.5°	2429.0	2430.8	2485.4	2279.9	1855.1	1635.7	1606.1	1649.6	1890.2	2213.3	2329.0
30°	2560.4	2560.4	2584.5	2335.5	1908.7	1658.8	1613.5	1677.3	1918.9	2260.5	2481.7
32.5°	2680.8	2687.2	2675.2	2393.8	1959.7	1692.1	1631.0	1732.9	1964.3	2299.4	2599.3
35°	2833.5	2832.6	2778.9	2440.1	2006.9	1728.2	1674.6	1803.2	2030.0	2356.8	2711.3
37.5°	3022.3	3013.1	2899.2	2481.7	2064.3	1790.3	1756.9	1899.5	2117.9	2424.3	2852.9
40°	3193.6	3178.8	3009.4	2520.6	2109.6	1910.6	1891.2	2018.9	2229.0	2508.6	2990.9
42.5°	3326.9	3304.7	3102.9	2548.4	2178.1	2099.4	2116.1	2233.7	2341.0	2583.6	3077.0
45°	3438.9	3415.7	3173.2	2562.3	2343.8	2368.8	2401.2	2499.3	2460.5	2603.9	3129.7
47.5°	3519.4	3481.5	3203.8	2603.0	2567.8	2683.5	2783.5	2790.0	2628.9	2603.0	3162.1
50°	3566.6	3525.0	3232.5	2703.9	2827.9	3040.8	3147.3	3097.3	2803.9	2619.7	3208.4
52.5°	3662.0	3618.5	3351.9	2867.7	3094.5	3402.8	3460.2	3379.6	2985.3	2705.8	3301.0
55°	3901.7	3882.3	3583.3	3088.1	3356.5	3695.3	3721.2	3640.7	3175.1	2854.8	3477.8
57.5°	4173.0	4130.4	3896.2	3364.8	3607.4	3923.9	3965.6	3854.5	3374.1	3064.0	3674.9
60°	4248.9	4240.5	4160.9	3687.9	3866.6	4168.3	4171.1	4029.5	3606.4	3313.0	3975.8
62.5°	4137.8	4164.6	4271.1	3986.9	4084.1	4332.2	4309.0	4161.8	3849.9	3709.2	4341.4
65°	3944.3	3982.3	4196.1	4269.2	4134.1	4299.8	4250.7	4157.2	4003.6	4135.9	4568.2
67.5°	3712.0	3732.3	3981.3	4409.9	3959.1	3943.4	3920.2	3877.7	3942.5	4439.5	4607.1
70°	3470.4	3488.0	3717.5	4216.5	3434.3	3253.8	3234.3	3197.3	3450.0	4435.8	4416.4
72.5°	2925.1	2914.0	3126.0	3519.4	2622.4	2377.1	2541.9	2461.4	2790.9	3985.0	3934.1
75°	1817.1	1878.2	2143.9	2467.9	1796.7	1628.3	1856.0	1835.6	2266.1	3431.5	3132.5
77.5°	1107.1	1119.1	1269.1	1538.5	1082.1	1128.4	1193.2	1319.1	1680.1	2781.7	2183.7
80°	579.5	538.7	648.9	844.2	642.4	757.2	874.8	1013.6	1066.4	1813.4	1459.8
82.5°	167.5	166.6	219.4	353.6	304.5	372.1	441.5	636.9	698.9	1078.4	999.7
85°	0.9	0.9	0.9	1.9	2.8	4.6	19.4	163.8	216.6	499.9	411.0
87.5°	0.0	0.0	0.9	1.9	1.9	3.7	5.6	7.4	9.3	11.1	40.7
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: P401798

CATALOG NUMBER: ENT-SA1F-727-U-SLL

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1989.3	1989.3	1989.3	1989.3	1989.3	1989.3	1989.3	1989.3	1989.3	1989.3	1989.3
2.5°	2099.4	2085.6	2055.9	2016.1	1988.4	1940.2	1930.0	1899.5	1868.9	1843.9	1844.9
5°	2023.5	1976.3	1904.1	1820.8	1741.2	1669.9	1656.0	1614.4	1602.3	1590.3	1557.0
7.5°	1824.5	1769.0	1668.1	1545.0	1445.0	1377.4	1305.2	1261.7	1222.8	1178.4	1189.5
10°	1671.8	1592.2	1453.3	1308.9	1183.9	1093.2	1013.6	972.9	916.4	875.7	870.1
12.5°	1554.2	1468.1	1301.5	1132.1	1014.5	961.8	910.9	847.0	784.0	730.4	702.6
15°	1515.3	1418.1	1224.7	1056.2	963.6	899.8	828.5	755.4	678.5	621.1	598.9
17.5°	1560.7	1445.9	1223.7	1023.8	908.1	814.6	725.7	643.3	552.6	495.2	477.6
20°	1685.7	1542.2	1249.7	993.3	840.5	713.7	588.7	499.9	407.3	366.6	348.1
22.5°	1859.7	1672.7	1289.5	956.2	765.5	590.6	449.9	337.9	292.5	272.1	267.5
25°	2038.3	1838.4	1345.9	924.8	683.1	470.2	323.1	270.3	249.0	239.8	239.8
27.5°	2234.6	2004.1	1407.0	886.8	598.0	349.9	262.9	237.9	226.8	221.2	220.3
30°	2393.8	2139.2	1476.5	842.4	521.2	287.0	233.3	216.6	206.4	203.6	203.6
32.5°	2508.6	2240.1	1549.6	797.9	450.8	259.2	216.6	201.8	190.7	188.8	188.8
35°	2642.8	2336.4	1582.9	772.9	408.2	241.6	204.6	189.8	179.6	175.0	175.0
37.5°	2803.9	2451.2	1601.4	748.9	389.7	224.9	196.2	179.6	169.4	163.8	163.8
40°	3008.5	2581.7	1620.9	724.8	378.6	211.1	187.0	170.3	162.0	155.5	155.5
42.5°	3154.7	2702.1	1635.7	704.4	359.2	204.6	179.6	163.8	153.7	148.1	147.2
45°	3231.5	2814.1	1642.2	692.4	336.9	210.1	174.0	158.3	146.3	140.7	139.8
47.5°	3283.4	2906.6	1650.5	683.1	319.4	199.9	173.1	152.7	140.7	133.3	133.3
50°	3365.8	3028.8	1671.8	665.6	309.2	187.0	187.0	150.0	134.2	127.7	126.8
52.5°	3512.9	3203.8	1729.2	646.1	298.1	174.0	192.5	150.9	129.6	122.2	120.3
55°	3735.1	3482.4	1824.5	618.4	282.3	158.3	179.6	151.8	125.0	118.5	115.7
57.5°	4023.9	3819.3	1935.6	596.1	255.5	145.3	163.8	147.2	119.4	113.9	112.0
60°	4218.3	4044.3	2005.9	567.4	217.5	137.0	140.7	142.6	113.9	107.4	106.5
62.5°	4322.9	4048.0	2006.9	527.6	182.4	129.6	125.9	145.3	109.2	100.9	100.0
65°	4330.3	3850.8	1906.0	476.7	170.3	121.3	115.7	128.7	104.6	96.3	95.3
67.5°	4249.8	3529.6	1675.5	418.4	175.0	114.8	107.4	108.3	99.0	91.6	90.7
70°	3961.0	3114.0	1344.1	372.1	175.9	106.5	100.9	98.1	93.5	87.0	85.2
72.5°	3417.6	2602.1	1018.2	357.3	178.7	100.0	93.5	90.7	87.0	81.5	79.6
75°	2578.9	2030.0	764.6	333.2	180.5	92.6	85.2	83.3	79.6	74.1	73.1
77.5°	1781.9	1505.2	531.3	281.4	161.1	84.2	76.8	75.0	72.2	66.6	65.7
80°	1203.4	1032.1	325.8	211.1	122.2	74.1	66.6	66.6	63.9	58.3	58.3
82.5°	837.7	771.1	187.9	137.9	88.9	61.1	58.3	58.3	55.5	50.0	49.1
85°	349.9	466.5	84.2	75.0	62.0	48.1	48.1	49.1	46.3	41.7	40.7
87.5°	12.0	50.0	33.3	35.2	37.0	33.3	37.0	37.0	36.1	32.4	31.5
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: P401798

CATALOG NUMBER: ENT-SA1F-727-U-SLL

CANDELA DISTRIBUTION (continued):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	1989.3	1989.3	1989.3	1989.3	1989.3	1989.3	1989.3	1989.3	1989.3	1989.3	1989.3
2.5°	1818.0	1806.0	1769.0	1764.3	1736.6	1734.7	1746.8	1726.4	1728.2	1753.2	1749.5
5°	1564.4	1536.6	1535.7	1505.2	1470.9	1462.6	1432.9	1421.8	1417.2	1407.0	1444.1
7.5°	1223.7	1210.8	1221.9	1218.2	1186.7	1169.1	1106.2	1058.0	1034.0	1044.2	1046.9
10°	870.1	889.6	919.2	947.9	925.7	867.4	840.5	801.6	797.0	794.2	812.7
12.5°	689.6	667.4	681.3	691.5	670.2	645.2	634.1	617.4	626.7	648.0	660.0
15°	573.0	534.1	516.5	504.5	510.0	495.2	500.8	495.2	501.7	508.2	530.4
17.5°	452.7	438.8	405.4	389.7	390.6	384.2	386.0	385.1	381.4	396.2	413.8
20°	340.6	336.9	329.5	318.4	320.3	315.7	312.9	297.1	290.7	295.3	310.1
22.5°	265.7	270.3	274.9	274.0	278.6	266.6	255.5	241.6	239.8	240.7	244.4
25°	237.9	239.8	243.5	248.1	250.9	239.8	224.0	215.7	214.8	216.6	216.6
27.5°	221.2	219.4	224.0	229.6	233.3	219.4	206.4	199.0	197.2	195.3	194.4
30°	203.6	203.6	207.4	212.9	215.7	203.6	192.5	185.1	180.5	177.7	176.8
32.5°	190.7	191.6	193.5	197.2	201.8	189.8	180.5	174.0	165.7	162.9	161.1
35°	175.9	179.6	182.4	183.3	187.0	178.7	169.4	159.2	151.8	149.0	149.0
37.5°	163.8	166.6	171.3	170.3	173.1	167.5	157.4	146.3	142.6	141.6	140.7
40°	154.6	154.6	158.3	162.0	165.7	155.5	143.5	137.9	135.1	133.3	134.2
42.5°	146.3	145.3	145.3	151.8	158.3	143.5	133.3	129.6	128.7	126.8	127.7
45°	138.9	137.9	135.1	137.9	147.2	131.4	125.0	122.2	121.3	121.3	121.3
47.5°	132.4	130.5	126.8	127.7	134.2	122.2	116.6	115.7	114.8	114.8	115.7
50°	125.0	123.1	120.3	119.4	121.3	115.7	111.1	109.2	109.2	109.2	111.1
52.5°	118.5	117.6	113.9	112.9	113.9	110.2	105.5	104.6	104.6	104.6	107.4
55°	113.9	112.0	110.2	108.3	110.2	105.5	101.8	100.0	100.0	101.8	103.7
57.5°	109.2	107.4	106.5	104.6	106.5	101.8	98.1	96.3	97.2	98.1	98.1
60°	104.6	102.8	101.8	100.0	102.8	98.1	94.4	93.5	93.5	92.6	92.6
62.5°	100.0	99.0	97.2	95.3	99.0	93.5	90.7	88.9	87.9	87.9	87.9
65°	94.4	93.5	92.6	91.6	93.5	88.9	86.1	85.2	83.3	82.4	83.3
67.5°	89.8	89.8	87.9	86.1	88.9	83.3	81.5	80.5	77.8	76.8	77.8
70°	84.2	84.2	82.4	81.5	85.2	77.8	75.9	75.0	73.1	72.2	72.2
72.5°	78.7	78.7	76.8	75.9	80.5	72.2	70.4	69.4	66.6	65.7	65.7
75°	73.1	72.2	71.3	70.4	75.9	66.6	63.9	62.0	59.2	58.3	57.4
77.5°	66.6	65.7	63.9	64.8	68.5	59.2	55.5	54.6	51.8	50.9	50.0
80°	58.3	57.4	56.5	58.3	58.3	51.8	47.2	45.4	42.6	40.7	39.8
82.5°	50.0	49.1	49.1	50.9	48.1	45.4	39.8	36.1	31.5	28.7	27.8
85°	40.7	42.6	40.7	42.6	36.1	36.1	27.8	21.3	14.8	12.0	11.1
87.5°	31.5	32.4	31.5	32.4	25.0	24.1	13.0	7.4	0.9	0.0	0.0
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: P401798

CATALOG NUMBER: ENT-SA1F-727-U-SLL

CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	1989.3	1989.3	1989.3	1989.3	1989.3	1989.3	1989.3	1989.3	1989.3	1989.3
2.5°	1777.3	1779.2	1819.0	1858.8	1882.8	1943.0	1972.6	2005.9	2023.5	2043.9
5°	1426.5	1461.6	1494.0	1573.7	1614.4	1709.7	1779.2	1890.2	1925.4	1953.2
7.5°	1077.5	1130.3	1170.1	1269.1	1345.9	1464.4	1585.7	1718.1	1756.0	1781.0
10°	856.3	904.4	979.4	1057.1	1143.2	1286.7	1418.1	1555.1	1621.8	1650.5
12.5°	719.3	796.1	884.0	956.2	1024.7	1130.3	1296.9	1470.0	1539.4	1569.9
15°	593.4	679.4	769.2	858.1	943.3	1062.7	1237.6	1462.6	1550.5	1581.1
17.5°	471.2	541.5	632.2	739.6	863.7	1015.5	1248.7	1541.3	1648.6	1688.4
20°	335.1	403.6	496.2	628.5	775.7	966.4	1274.7	1659.7	1812.5	1857.8
22.5°	252.7	290.7	375.8	506.3	697.0	927.5	1315.4	1821.7	2000.4	2041.1
25°	222.2	235.1	278.6	404.5	618.4	892.4	1369.1	1982.8	2199.4	2243.8
27.5°	197.2	204.6	226.8	324.9	560.0	856.3	1432.9	2156.8	2370.7	2429.0
30°	177.7	187.0	205.5	272.1	503.6	804.4	1491.3	2313.3	2516.0	2560.4
32.5°	162.9	173.1	189.8	246.2	455.4	765.5	1524.6	2429.9	2640.0	2680.8
35°	152.7	162.0	178.7	223.1	412.9	738.7	1534.8	2545.6	2791.8	2833.5
37.5°	143.5	152.7	167.5	199.9	383.2	703.5	1550.5	2683.5	2967.7	3022.3
40°	137.0	144.4	158.3	184.2	342.5	665.6	1569.0	2844.6	3139.0	3193.6
42.5°	130.5	138.9	150.9	185.1	301.8	633.2	1581.1	2968.6	3275.0	3326.9
45°	125.0	134.2	148.1	181.4	271.2	603.5	1575.5	3072.3	3399.1	3438.9
47.5°	119.4	130.5	155.5	174.0	262.0	576.7	1580.1	3172.3	3488.0	3519.4
50°	115.7	129.6	166.6	162.9	263.8	564.7	1624.6	3291.7	3554.6	3566.6
52.5°	112.9	132.4	157.4	147.2	263.8	559.1	1709.7	3484.2	3670.3	3662.0
55°	108.3	131.4	147.2	133.3	252.7	561.9	1790.3	3738.8	3948.0	3901.7
57.5°	104.6	125.9	132.4	123.1	226.8	562.8	1909.7	3953.6	4166.5	4173.0
60°	100.0	135.1	114.8	114.8	194.4	558.2	2015.2	3949.9	4206.3	4248.9
62.5°	95.3	132.4	102.8	106.5	172.2	540.6	2079.1	3719.4	4059.1	4137.8
65°	89.8	104.6	94.4	99.0	162.9	497.1	1988.4	3433.3	3860.1	3944.3
67.5°	83.3	86.1	86.1	91.6	159.2	431.4	1759.7	3117.7	3610.1	3712.0
70°	75.9	76.8	78.7	87.0	148.1	371.2	1432.9	2781.7	3341.7	3470.4
72.5°	68.5	69.4	69.4	78.7	138.9	320.3	1014.5	2204.0	2790.0	2925.1
75°	60.2	61.1	60.2	68.5	121.3	239.8	602.6	1394.1	1664.4	1817.1
77.5°	50.9	50.9	49.1	53.7	83.3	151.8	329.5	847.0	1012.7	1107.1
80°	41.7	38.0	31.5	32.4	45.4	87.0	147.2	486.0	555.4	579.5
82.5°	27.8	21.3	13.0	12.0	14.8	24.1	34.3	192.5	176.8	167.5
85°	5.6	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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