

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: McGRAW-EDISON

Report Number: P833527

Luminaire Tested: **TTN-D2-735-U-DL-UPL1**

Issue Date: 5/15/2024

**Test Information**

Test Method: LM-79-08  
Report Number: P833527  
REPORT IS FROM IESNA LM-79-08 TEST DATA - UPLIGHT (G3-2308-121-4) AND  
Test Lab: INNOVATION CENTER  
Issue Date: 5/15/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: TTN-D2-735-U-DL-UPL1  
Description: TOPTIER NANO LED PARKING GARAGE LUMINAIRE WITH UPLIGHT  
3500K, 70 CRI LEDS AND DRIVE LANE DISTRIBUTION  
Light Source: -  
Ballast/Driver: -

**Summary**

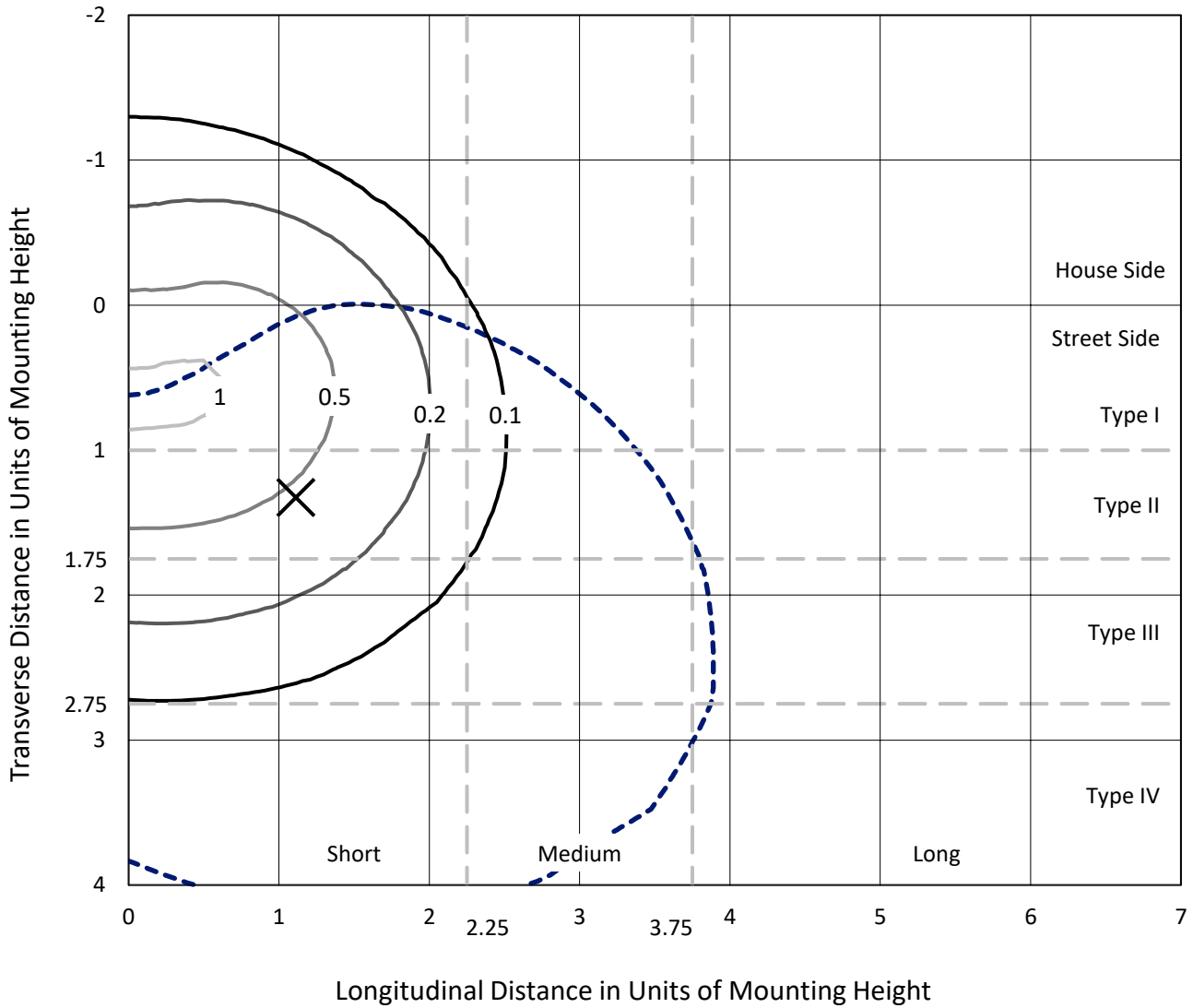
Lumens per Lamp: N/A  
Luminaire Lumens: 5051.9 lumens  
Efficiency: N/A  
Efficacy: 112.0 lumens/watt  
Luminous Opening: Vertical Cylinder (Dia: 0.71' x H: 0.1')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U3 - G2  
  
Input Watts (W): 45.1  
Input Voltage (V): NR  
Input Current (Ain): 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: 24 FT



REPORT NUMBER: P833527  
 CATALOG NUMBER: TTN-D2-735-U-DL-UPL1

### Iso-Footcandle Lines of Horizontal Illumination

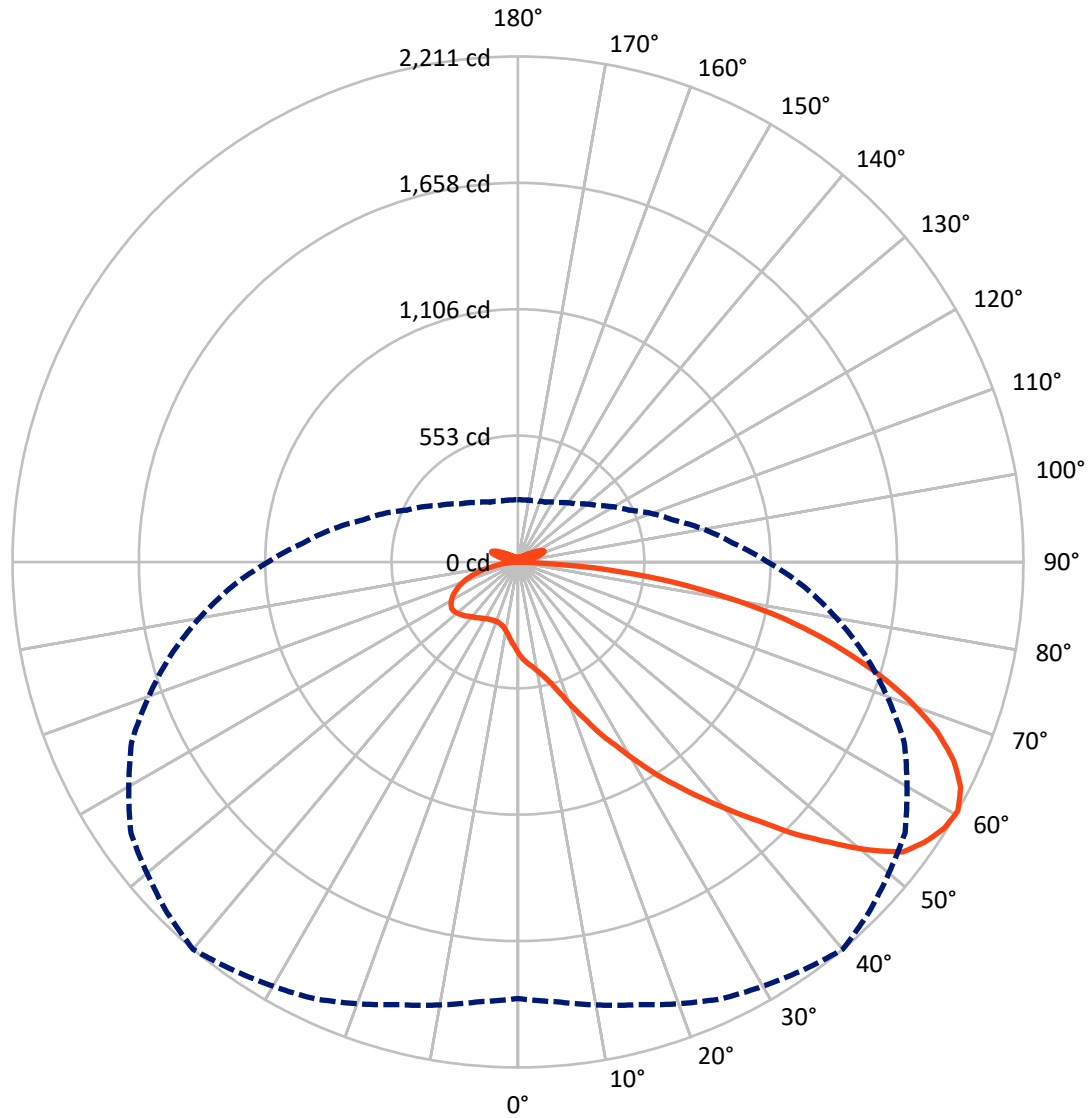
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.1 fc  
 Type IV - Short - N/A

REPORT NUMBER: P833527  
CATALOG NUMBER: TTN-D2-735-U-DL-UPL1

### Luminous Intensity Polar Plot



— Vertical Plane Through 40-Deg Lateral    - - - Horizontal Cone Through 60-Deg Vertical

REPORT NUMBER: P833527  
 CATALOG NUMBER: TTN-D2-735-U-DL-UPL1

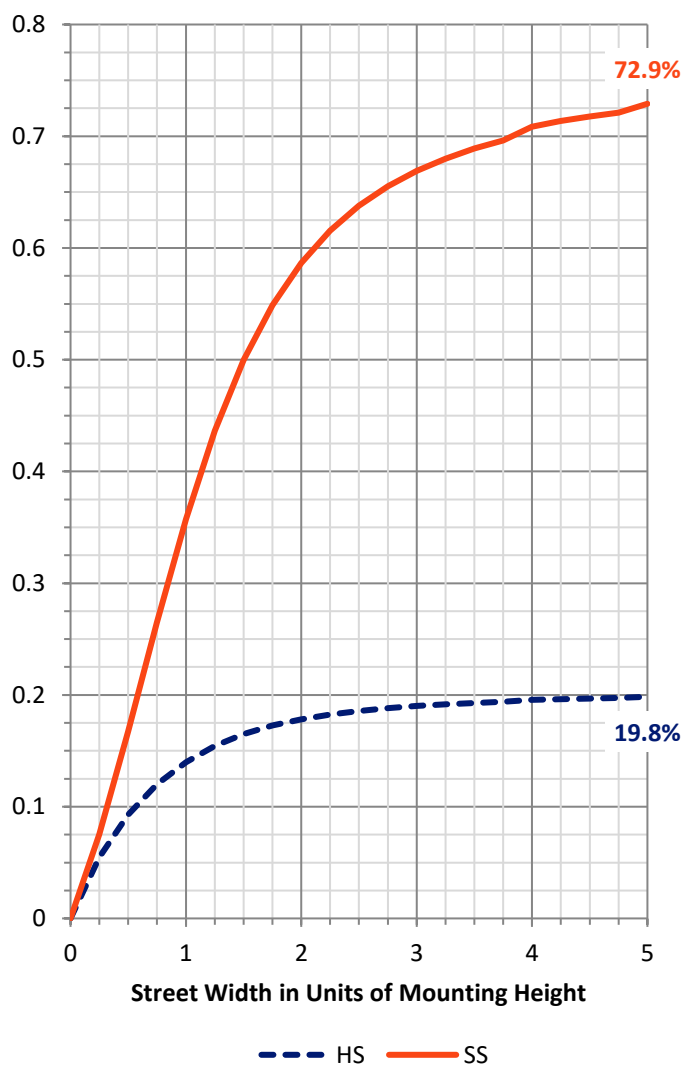
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1012.0	150.2	1162.2
	% Fixture	20.0	3.0	23.0
<b>Street Side</b>	Lumens	3739.5	150.2	3889.7
	% Fixture	74.0	3.0	77.0
<b>Total</b>	Lumens	4751.4	300.5	5051.9
	% Fixture	94.1	5.9	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	37.7	0.7
10°-20°	120.4	2.4
20°-30°	254.4	5.0
30°-40°	465.0	9.2
40°-50°	755.6	15.0
50°-60°	1050.2	20.8
60°-70°	1088.7	21.6
70°-80°	780.1	15.4
80°-90°	199.3	3.9
90°-100°	6.7	0.1
100°-110°	68.2	1.3
110°-120°	99.6	2.0
120°-130°	57.8	1.1
130°-140°	30.6	0.6
140°-150°	18.2	0.4
150°-160°	11.2	0.2
160°-170°	6.1	0.1
170°-180°	2.0	0.0
0°-90°	4751.4	94.1
0°-180°	5051.9	100.0

**Coefficient of Utilization**

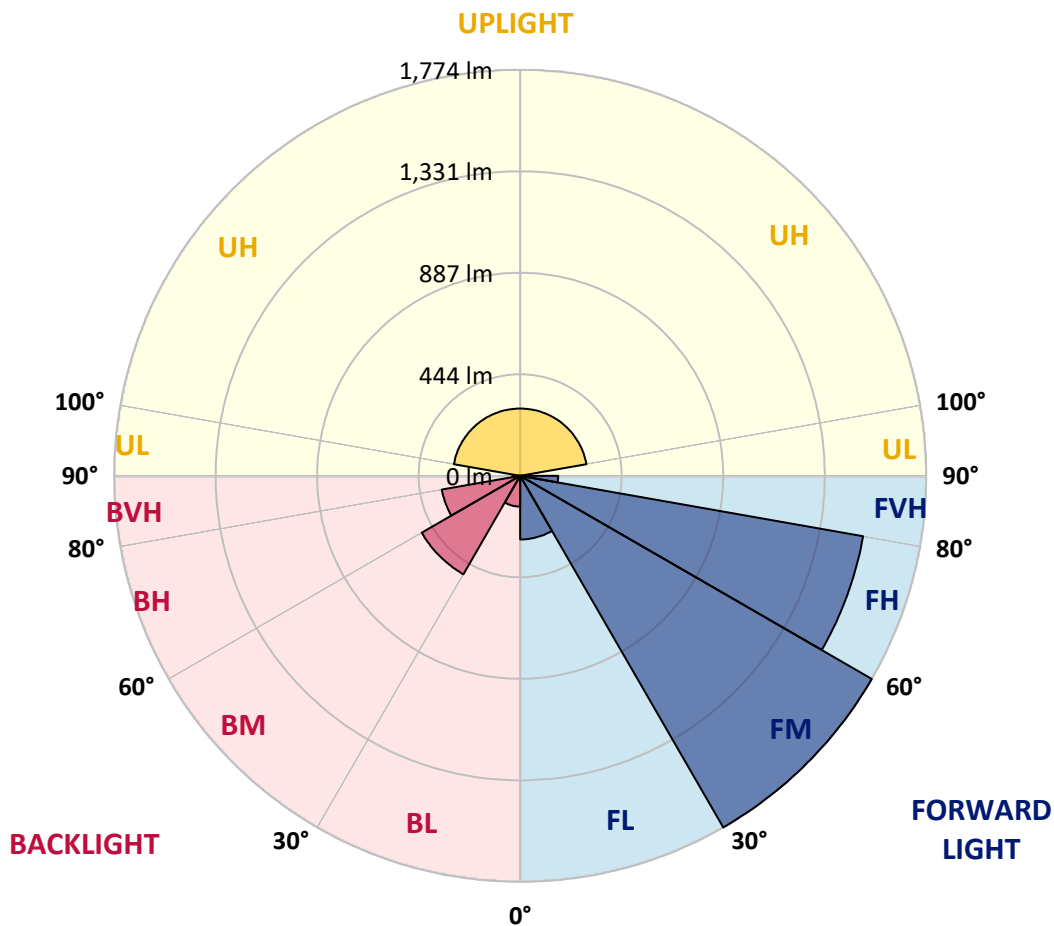


REPORT NUMBER: P833527  
 CATALOG NUMBER: TTN-D2-735-U-DL-UPL1

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	278.0	5.5			
FM (30°-60°)	1774.0	35.1			
FH (60°-80°)	1521.5	30.1			G1/1800
FVH (80°-90°)	165.9	3.3			G2/225
BL (0°-30°)	134.6	2.7	B1/500		
BM (30°-60°)	496.7	9.8	B1/1000		
BH (60°-80°)	347.3	6.9	B1/500		G1/500
BVH (80°-90°)	33.4	0.7			G1/100
UL (90°-100°)	6.7	0.1		U1/10	
UH (100°-180°)	293.8	5.8		U3/500	

**BUG Rating: B1-U3-G2**  
 Type IV Short





REPORT NUMBER: P833527

CATALOG NUMBER: TTN-D2-735-U-DL-UPL1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	40°	45°	55°	65°	75°	85°
0°	400.1	400.1	400.1	400.1	400.1	400.1	400.1	400.1	400.1	400.1	400.1
2.5°	429.0	429.0	429.0	429.0	424.9	424.9	420.8	416.6	412.5	408.4	400.1
5°	466.1	466.1	462.0	457.9	449.6	445.5	441.4	433.1	424.9	416.6	404.3
7.5°	482.6	482.6	482.6	478.5	466.1	462.0	453.8	441.4	429.0	416.6	400.1
10°	511.5	511.5	507.4	503.3	490.9	486.8	478.5	462.0	441.4	420.8	400.1
12.5°	548.6	544.5	540.4	536.3	523.9	515.6	503.3	486.8	462.0	437.3	412.5
15°	594.0	585.8	585.8	577.5	565.1	552.8	544.5	519.8	495.0	462.0	429.0
17.5°	643.5	639.4	635.3	627.0	614.6	606.4	594.0	565.1	532.1	490.9	453.8
20°	705.4	697.1	701.3	688.9	676.5	672.4	651.8	618.8	577.5	532.1	486.8
22.5°	779.7	771.4	771.4	759.0	750.8	742.5	721.9	684.8	631.1	581.6	523.9
25°	862.2	853.9	853.9	845.7	837.4	829.2	804.4	763.2	701.3	639.4	573.4
27.5°	952.9	944.7	944.7	940.5	919.9	907.5	886.9	841.5	779.7	701.3	622.9
30°	1047.8	1039.5	1047.8	1039.5	1027.2	1002.4	977.7	928.2	858.0	771.4	676.5
32.5°	1122.0	1122.0	1126.2	1134.4	1126.2	1105.5	1076.7	1035.4	940.5	833.3	726.0
35°	1208.7	1208.7	1216.9	1229.3	1225.2	1204.5	1175.7	1130.3	1031.3	903.4	779.7
37.5°	1303.5	1303.5	1311.8	1332.4	1324.2	1311.8	1291.2	1233.4	1122.0	973.5	837.4
40°	1406.7	1402.5	1410.8	1439.7	1443.8	1427.3	1402.5	1344.8	1216.9	1064.3	899.3
42.5°	1509.8	1505.7	1522.2	1551.1	1555.2	1551.1	1526.3	1460.3	1315.9	1155.0	961.2
45°	1612.9	1612.9	1637.7	1683.1	1703.7	1695.4	1674.8	1592.3	1439.7	1249.9	1043.7
47.5°	1720.2	1720.2	1753.2	1810.9	1835.7	1831.6	1823.3	1724.3	1559.3	1348.9	1113.8
50°	1802.7	1802.7	1856.3	1922.3	1963.6	1980.1	1938.8	1848.1	1662.4	1435.6	1171.5
52.5°	1885.2	1885.2	1938.8	2041.9	2083.2	2107.9	2054.3	1959.4	1777.9	1513.9	1225.2
55°	1926.4	1934.7	2008.9	2107.9	2174.0	2161.6	2182.2	2054.3	1852.2	1571.7	1258.2
57.5°	1930.6	1942.9	2025.4	2128.6	2202.8	2198.7	2202.8	2087.3	1881.1	1584.1	1262.3
60°	1909.9	1930.6	2004.8	2107.9	2178.1	2211.1	2169.8	2066.7	1864.6	1571.7	1258.2
62.5°	1860.4	1901.7	1980.1	2058.4	2161.6	2174.0	2140.9	2054.3	1819.2	1559.3	1237.5
65°	1749.1	1794.4	1905.8	1996.6	2079.1	2095.6	2058.4	1984.2	1773.8	1501.6	1171.5
67.5°	1637.7	1666.6	1761.4	1901.7	1959.4	1975.9	1963.6	1876.9	1695.4	1386.0	1093.2
70°	1509.8	1546.9	1621.2	1765.6	1823.3	1819.2	1856.3	1757.3	1575.8	1287.0	1010.7
72.5°	1336.5	1390.2	1464.4	1584.1	1654.2	1629.4	1687.2	1604.7	1419.0	1163.3	899.3
75°	1134.4	1179.8	1274.7	1369.5	1447.9	1419.0	1464.4	1406.7	1237.5	1014.8	771.4
77.5°	907.5	961.2	1047.8	1134.4	1188.0	1188.0	1208.7	1159.2	1027.2	833.3	631.1
80°	672.4	721.9	800.3	862.2	911.7	915.8	936.4	911.7	792.0	647.6	482.6
82.5°	445.5	470.3	540.4	589.9	639.4	635.3	668.3	651.8	552.8	445.5	321.8
85°	189.8	206.3	264.0	305.3	350.6	334.1	379.5	375.4	297.0	214.5	144.4
87.5°	8.3	12.4	12.4	8.3	12.4	4.1	12.4	16.5	12.4	8.3	8.3
90°	2.6	2.6	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.6
92.5°	2.6	2.6	2.6	3.6	4.1	3.8	3.6	4.1	3.1	3.1	2.6
95°	3.1	3.1	3.6	4.6	5.7	6.0	6.2	6.2	3.6	3.6	3.1
97.5°	4.1	4.6	4.6	5.7	9.3	13.2	17.0	10.3	5.1	5.1	4.6
100°	6.7	7.2	7.2	12.9	27.2	31.8	36.5	26.2	13.4	9.8	7.2
102.5°	21.6	22.6	27.8	41.6	61.7	58.8	56.0	47.3	44.7	30.8	24.7
105°	55.0	54.5	58.6	69.4	86.4	85.6	84.8	78.1	70.9	61.2	56.5
107.5°	72.5	72.5	76.1	85.3	98.2	106.4	114.6	116.2	92.0	80.7	75.6
110°	81.7	81.7	84.8	92.5	109.5	121.0	132.6	131.6	113.6	99.7	93.0



REPORT NUMBER: P833527  
 CATALOG NUMBER: TTN-D2-735-U-DL-UPL1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	40°	45°	55°	65°	75°	85°
112.5°	83.8	84.3	88.4	100.2	118.7	123.8	129.0	124.4	117.2	111.0	105.9
115°	86.9	86.9	91.5	102.8	113.1	115.2	117.2	112.1	106.4	102.3	100.2
117.5°	85.8	87.4	88.4	94.6	101.3	102.8	104.4	101.8	94.1	91.0	90.0
120°	79.7	79.7	80.7	83.8	87.4	88.2	88.9	87.9	82.8	80.2	79.7
122.5°	70.9	71.5	70.9	72.5	75.0	75.8	76.6	75.6	71.5	70.4	70.4
125°	62.2	62.2	61.7	62.7	64.3	64.0	63.7	64.3	62.2	61.7	61.7
127.5°	56.0	55.5	54.5	55.0	55.5	55.5	55.5	56.0	54.0	54.5	55.0
130°	49.9	49.9	48.8	48.8	48.8	48.3	47.8	48.8	47.8	48.3	48.8
132.5°	44.2	44.2	42.7	42.2	42.2	42.2	42.2	42.7	42.2	43.2	44.2
135°	39.6	39.6	38.0	38.6	38.6	38.3	38.0	38.6	38.0	39.1	39.6
137.5°	36.0	36.0	35.0	35.0	35.0	34.7	34.4	35.0	35.0	35.5	36.5
140°	32.9	32.9	32.4	32.4	31.9	32.2	32.4	32.4	32.4	32.9	33.4
142.5°	31.4	30.8	30.3	29.8	30.3	30.3	30.3	30.3	29.8	30.3	31.4
145°	28.8	28.8	28.3	28.3	28.3	28.6	28.8	28.3	28.3	28.8	28.8
147.5°	27.2	27.2	26.7	27.2	27.2	27.2	27.2	27.2	26.7	27.2	27.2
150°	26.7	26.2	25.7	26.2	26.2	26.0	25.7	25.7	25.7	25.7	26.2
152.5°	25.2	25.2	24.7	25.2	24.7	24.7	24.7	24.7	24.7	24.7	25.2
155°	24.2	24.2	23.6	24.2	24.2	24.2	24.2	24.2	24.2	24.2	24.2
157.5°	23.1	23.6	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.6
160°	22.6	22.6	22.6	22.6	22.1	22.1	22.1	22.1	22.6	22.6	22.6
162.5°	22.1	22.1	22.1	22.1	21.6	21.6	21.6	21.6	21.6	22.1	22.1
165°	22.1	21.6	21.6	21.6	21.1	21.1	21.1	21.1	21.1	21.6	22.1
167.5°	21.1	21.1	21.1	21.1	21.1	20.8	20.6	20.6	21.1	21.1	21.1
170°	21.1	21.1	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6
172.5°	21.1	21.1	21.1	21.1	20.6	20.6	20.6	20.6	20.6	20.6	21.1
175°	21.1	21.1	21.1	21.1	20.6	20.6	20.6	20.6	21.1	21.1	21.1
177.5°	21.1	21.1	21.1	21.1	20.6	20.8	21.1	21.1	21.1	21.1	21.1
180°	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1





REPORT NUMBER: P833527  
 CATALOG NUMBER: TTN-D2-735-U-DL-UPL1

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	400.1	400.1	400.1	400.1	400.1	400.1	400.1	400.1	400.1	400.1	400.1
2.5°	400.1	396.0	387.8	383.6	379.5	371.3	371.3	367.1	367.1	367.1	363.0
5°	400.1	391.9	383.6	371.3	363.0	354.8	346.5	338.3	334.1	334.1	330.0
7.5°	391.9	383.6	371.3	358.9	346.5	330.0	321.8	305.3	301.1	297.0	297.0
10°	391.9	383.6	363.0	346.5	330.0	313.5	301.1	284.6	272.3	268.1	268.1
12.5°	396.0	383.6	363.0	342.4	321.8	301.1	284.6	268.1	255.8	247.5	247.5
15°	412.5	396.0	371.3	342.4	317.6	292.9	276.4	255.8	243.4	235.1	235.1
17.5°	433.1	416.6	379.5	346.5	317.6	288.8	268.1	247.5	235.1	226.9	222.8
20°	462.0	437.3	396.0	350.6	317.6	288.8	264.0	243.4	226.9	218.6	218.6
22.5°	495.0	466.1	412.5	358.9	321.8	288.8	264.0	239.3	222.8	214.5	214.5
25°	536.3	499.1	437.3	375.4	330.0	292.9	264.0	239.3	222.8	214.5	214.5
27.5°	581.6	540.4	462.0	391.9	338.3	297.0	264.0	239.3	222.8	214.5	214.5
30°	622.9	577.5	486.8	408.4	350.6	301.1	268.1	243.4	226.9	218.6	214.5
32.5°	668.3	610.5	511.5	424.9	358.9	309.4	272.3	247.5	226.9	218.6	218.6
35°	713.6	651.8	536.3	445.5	371.3	317.6	276.4	251.6	231.0	222.8	222.8
37.5°	763.2	697.1	565.1	462.0	383.6	325.9	284.6	255.8	235.1	226.9	226.9
40°	820.9	742.5	594.0	482.6	396.0	334.1	288.8	264.0	243.4	235.1	235.1
42.5°	874.5	783.8	622.9	499.1	408.4	342.4	297.0	268.1	251.6	243.4	243.4
45°	928.2	833.3	651.8	519.8	420.8	354.8	305.3	280.5	259.9	251.6	251.6
47.5°	990.0	878.7	684.8	536.3	433.1	363.0	313.5	288.8	268.1	264.0	259.9
50°	1039.5	911.7	705.4	552.8	441.4	371.3	321.8	292.9	276.4	268.1	268.1
52.5°	1084.9	944.7	721.9	561.0	445.5	375.4	330.0	301.1	284.6	276.4	276.4
55°	1109.7	957.0	734.3	561.0	449.6	379.5	330.0	301.1	284.6	280.5	276.4
57.5°	1109.7	957.0	726.0	552.8	441.4	371.3	325.9	297.0	284.6	276.4	276.4
60°	1093.2	944.7	705.4	536.3	429.0	358.9	317.6	288.8	276.4	272.3	272.3
62.5°	1068.4	924.0	688.9	515.6	412.5	342.4	305.3	276.4	268.1	268.1	264.0
65°	1002.4	862.2	651.8	486.8	387.8	321.8	288.8	264.0	255.8	251.6	247.5
67.5°	932.3	804.4	594.0	453.8	354.8	301.1	268.1	247.5	235.1	235.1	231.0
70°	862.2	742.5	540.4	408.4	317.6	276.4	243.4	222.8	214.5	214.5	214.5
72.5°	767.3	664.1	478.5	358.9	280.5	243.4	218.6	198.0	193.9	193.9	189.8
75°	655.9	565.1	404.3	305.3	235.1	206.3	185.6	165.0	165.0	165.0	165.0
77.5°	536.3	457.9	321.8	243.4	185.6	165.0	152.6	136.1	136.1	136.1	136.1
80°	404.3	338.3	235.1	177.4	136.1	119.6	111.4	103.1	107.3	107.3	103.1
82.5°	264.0	222.8	148.5	111.4	86.6	78.4	78.4	70.1	74.3	74.3	74.3
85°	115.5	99.0	61.9	49.5	41.3	41.3	41.3	37.1	41.3	41.3	41.3
87.5°	8.3	8.3	8.3	8.3	8.3	8.3	8.3	0.0	4.1	8.3	4.1
90°	2.6	2.6	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.6	2.6
92.5°	2.6	2.6	3.1	3.1	4.1	3.6	4.1	3.6	2.6	2.6	2.6
95°	3.1	3.1	3.6	3.6	6.2	6.2	5.7	4.6	3.6	3.1	3.1
97.5°	4.1	4.6	5.1	5.1	10.3	17.0	9.3	5.7	4.6	4.6	4.1
100°	7.2	7.2	9.8	13.4	26.2	36.5	27.2	12.9	7.2	7.2	6.7
102.5°	23.6	24.7	30.8	44.7	47.3	56.0	61.7	41.6	27.8	22.6	21.6
105°	56.5	56.5	61.2	70.9	78.1	84.8	86.4	69.4	58.6	54.5	55.0
107.5°	75.0	75.6	80.7	92.0	116.2	114.6	98.2	85.3	76.1	72.5	72.5
110°	92.0	93.0	99.7	113.6	131.6	132.6	109.5	92.5	84.8	81.7	81.7



REPORT NUMBER: P833527  
 CATALOG NUMBER: TTN-D2-735-U-DL-UPL1

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	104.9	105.9	111.0	117.2	124.4	129.0	118.7	100.2	88.4	84.3	83.8
115°	101.3	100.2	102.3	106.4	112.1	117.2	113.1	102.8	91.5	86.9	86.9
117.5°	88.4	90.0	91.0	94.1	101.8	104.4	101.3	94.6	88.4	87.4	85.8
120°	78.6	79.7	80.2	82.8	87.9	88.9	87.4	83.8	80.7	79.7	79.7
122.5°	69.4	70.4	70.4	71.5	75.6	76.6	75.0	72.5	70.9	71.5	70.9
125°	61.2	61.7	61.7	62.2	64.3	63.7	64.3	62.7	61.7	62.2	62.2
127.5°	54.5	55.0	54.5	54.0	56.0	55.5	55.5	55.0	54.5	55.5	56.0
130°	49.3	48.8	48.3	47.8	48.8	47.8	48.8	48.8	48.8	49.9	49.9
132.5°	44.2	44.2	43.2	42.2	42.7	42.2	42.2	42.2	42.7	44.2	44.2
135°	39.6	39.6	39.1	38.0	38.6	38.0	38.6	38.6	38.0	39.6	39.6
137.5°	37.0	36.5	35.5	35.0	35.0	34.4	35.0	35.0	35.0	36.0	36.0
140°	33.4	33.4	32.9	32.4	32.4	32.4	31.9	32.4	32.4	32.9	32.9
142.5°	31.4	31.4	30.3	29.8	30.3	30.3	30.3	29.8	30.3	30.8	31.4
145°	29.3	28.8	28.8	28.3	28.3	28.8	28.3	28.3	28.3	28.8	28.8
147.5°	27.8	27.2	27.2	26.7	27.2	27.2	27.2	27.2	26.7	27.2	27.2
150°	26.2	26.2	25.7	25.7	25.7	25.7	26.2	26.2	25.7	26.2	26.7
152.5°	25.7	25.2	24.7	24.7	24.7	24.7	24.7	25.2	24.7	25.2	25.2
155°	24.2	24.2	24.2	24.2	24.2	24.2	24.2	24.2	23.6	24.2	24.2
157.5°	23.6	23.6	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.6	23.1
160°	23.1	22.6	22.6	22.6	22.1	22.1	22.1	22.6	22.6	22.6	22.6
162.5°	22.6	22.1	22.1	21.6	21.6	21.6	21.6	22.1	22.1	22.1	22.1
165°	21.6	22.1	21.6	21.1	21.1	21.1	21.1	21.6	21.6	21.6	22.1
167.5°	21.6	21.1	21.1	21.1	20.6	20.6	21.1	21.1	21.1	21.1	21.1
170°	21.1	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	21.1	21.1
172.5°	21.1	21.1	20.6	20.6	20.6	20.6	20.6	21.1	21.1	21.1	21.1
175°	20.6	21.1	21.1	21.1	20.6	20.6	20.6	21.1	21.1	21.1	21.1
177.5°	21.1	21.1	21.1	21.1	21.1	21.1	20.6	21.1	21.1	21.1	21.1
180°	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1

(END OF REPORT)