

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: P821340

Luminaire Tested: **TT-D1-750-24VDC-DL-UPL**

Issue Date: 7/23/2020



Test Information

Test Method: LM-79-08
Report Number: P821340
REPORT IS FROM IESNA LM-79-08 TEST DATA - UPLIGHT (G2-2002-677-3) AND
Test Lab: INNOVATION CENTER
Issue Date: 7/23/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: TT-D1-750-24VDC-DL-UPL
Description: TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT WITH UPLIGHT
5000K, 70 CRI LEDS AND DRIVE LANE DISTRIBUTION
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

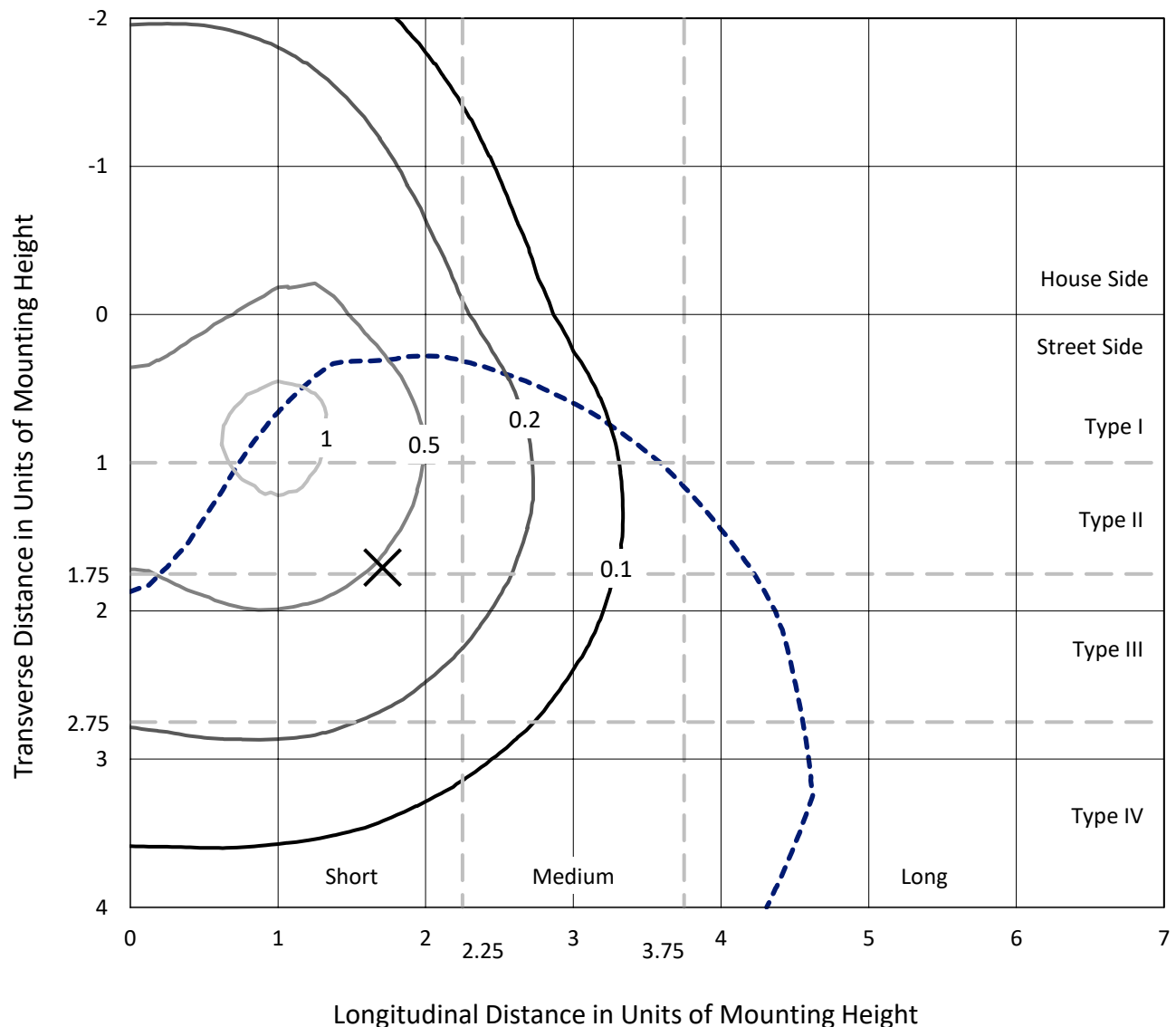
Lumens per Lamp: N/A
Luminaire Lumens: 4227.3 lumens
Efficiency: N/A
Efficacy: 151.0 lumens/watt
Luminous Opening: Vertical Cylinder (Dia: 1.12' x H: 0.1')
IES Classification: Type IV - Short
BUG Rating: B1 - U4 - G2

Input Watts (W): 28
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

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Iso-Footcandle Lines of Horizontal Illumination

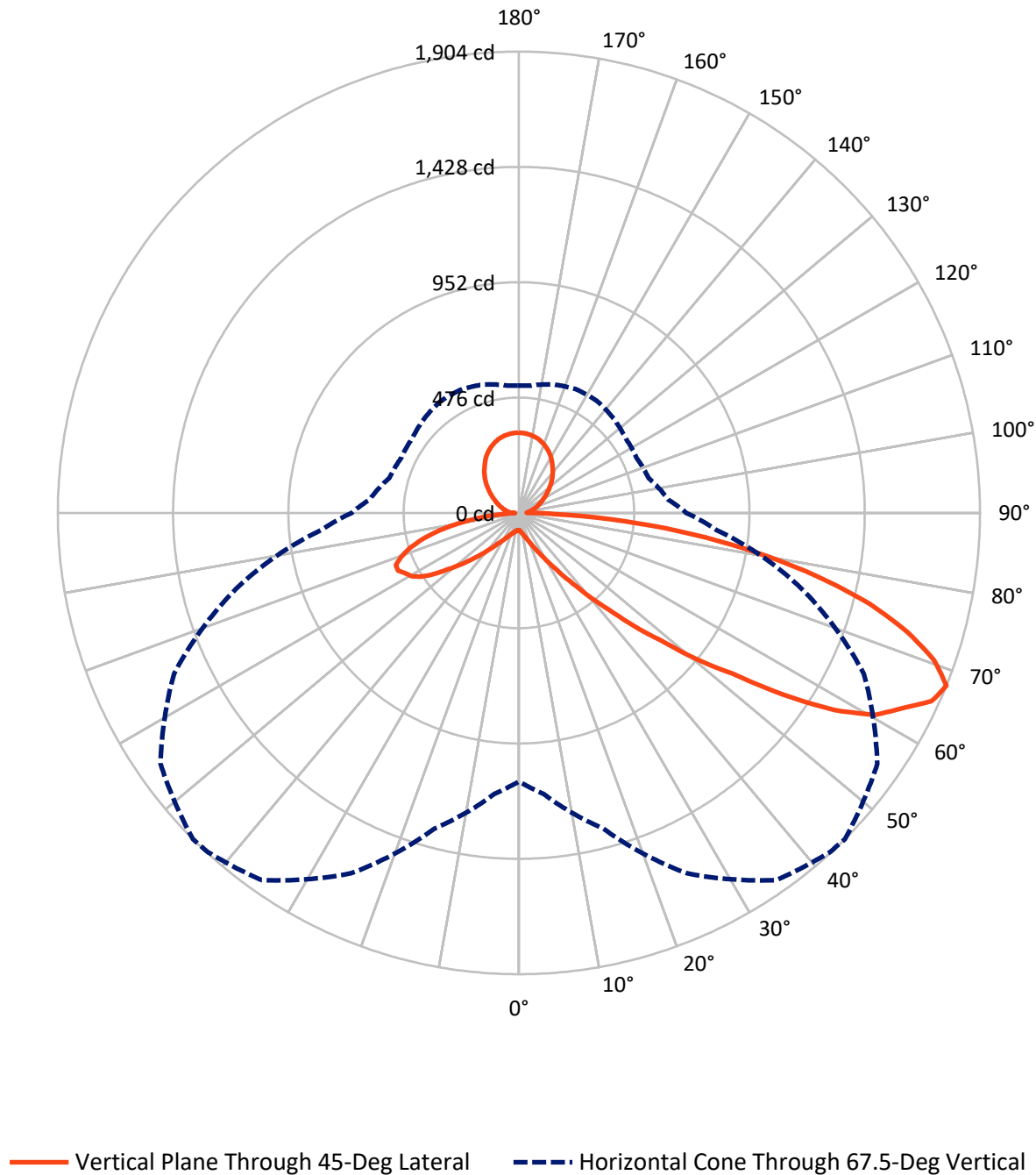
✕ Max cd
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 1.1 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



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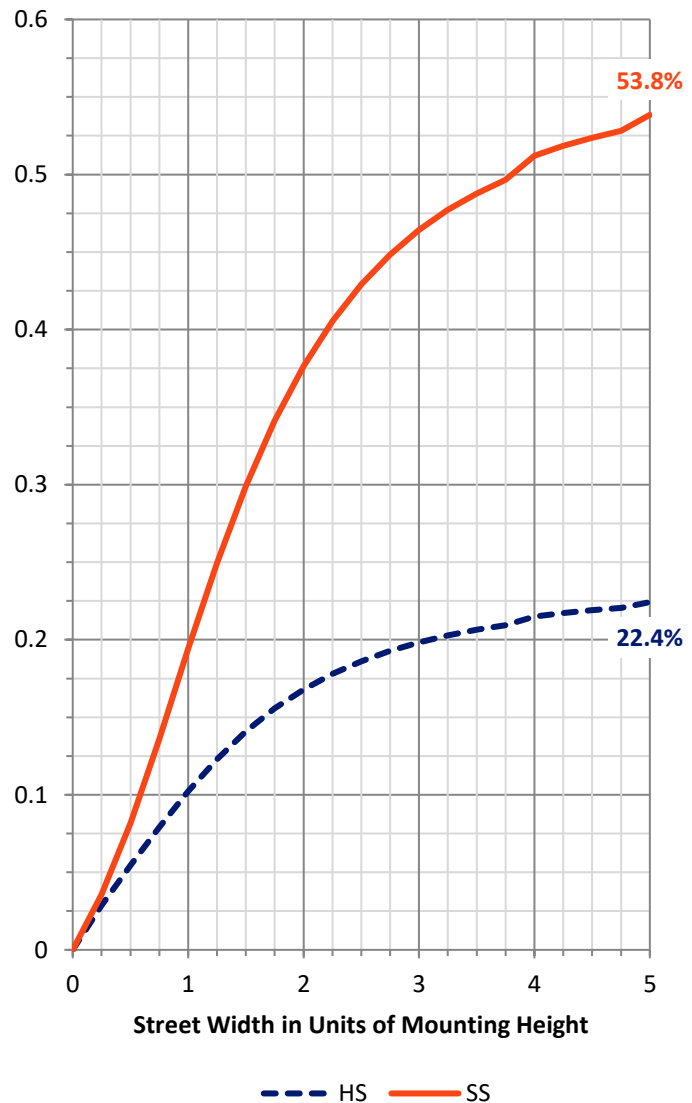
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	970.5	450.0	1420.5
	% Fixture	23.0	10.6	33.6
Street Side	Lumens	2356.8	450.0	2806.9
	% Fixture	55.8	10.6	66.4
Total	Lumens	3327.3	900.0	4227.3
	% Fixture	78.7	21.3	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	7.4	0.2
10°-20°	27.6	0.7
20°-30°	65.2	1.5
30°-40°	147.5	3.5
40°-50°	328.9	7.8
50°-60°	661.2	15.6
60°-70°	971.2	23.0
70°-80°	854.0	20.2
80°-90°	264.3	6.3
90°-100°	46.1	1.1
100°-110°	71.4	1.7
110°-120°	99.4	2.4
120°-130°	128.8	3.0
130°-140°	150.0	3.5
140°-150°	152.1	3.6
150°-160°	131.9	3.1
160°-170°	89.0	2.1
170°-180°	31.3	0.7
0°-90°	3327.3	78.7
0°-180°	4227.3	100.0



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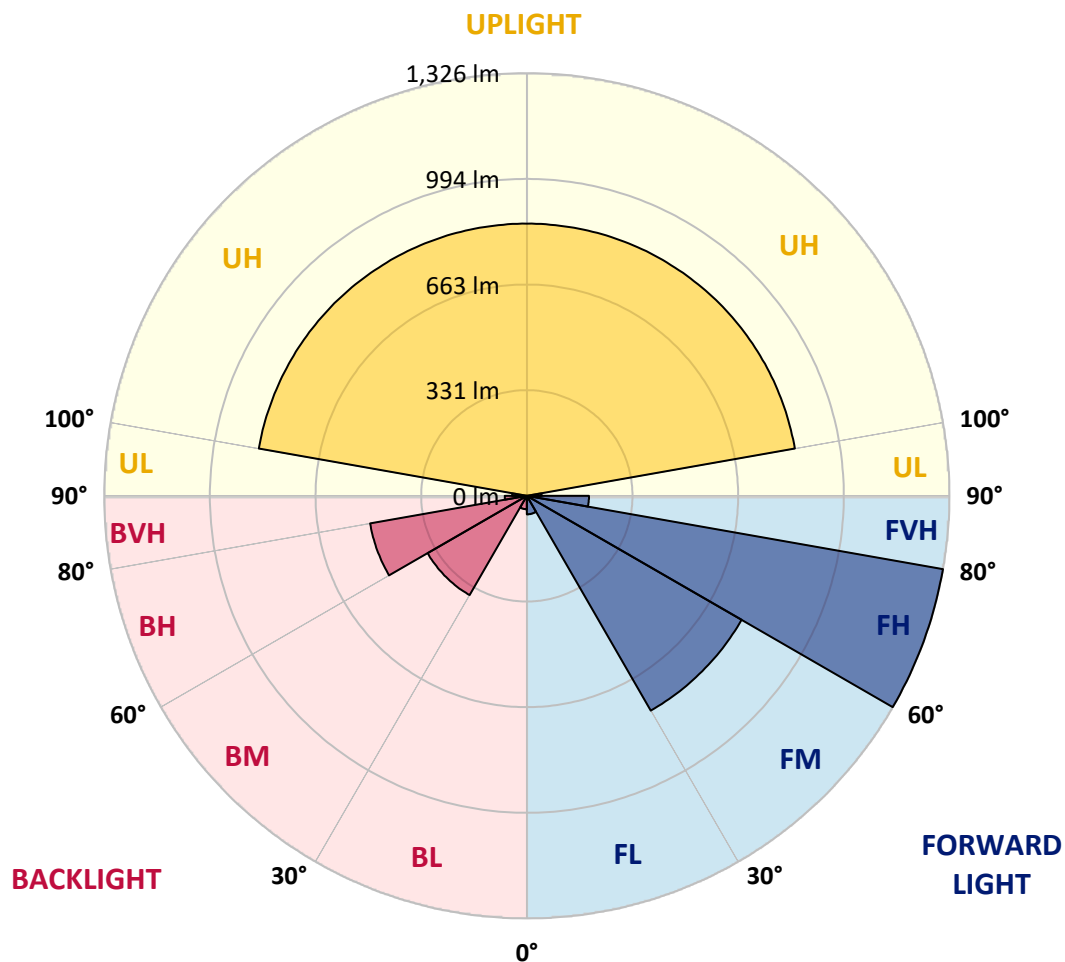
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	58.0	1.4			
FM	(30°-60°)	778.2	18.4			
FH	(60°-80°)	1325.8	31.4			G1/1800
FVH	(80°-90°)	194.8	4.6			G2/225
BL	(0°-30°)	42.1	1.0	B0/110		
BM	(30°-60°)	359.5	8.5	B1/1000		
BH	(60°-80°)	499.3	11.8	B1/500		G1/500
BVH	(80°-90°)	69.5	1.6			G1/100
UL	(90°-100°)	46.1	1.1		U2/50	
UH	(100°-180°)	853.9	20.2		U4/1000	

BUG Rating: B1-U4-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	42.5°	45°	55°	65°	75°	85°
0°	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1
2.5°	75.2	74.6	74.6	74.6	73.9	73.9	73.9	73.9	73.3	73.3	73.3
5°	79.5	78.9	79.5	78.3	77.7	77.7	77.0	77.0	76.4	75.8	75.2
7.5°	85.7	85.1	85.1	83.9	83.3	82.6	82.6	81.4	80.8	79.5	78.3
10°	92.6	92.6	92.0	91.3	90.1	88.9	88.9	87.0	86.4	84.5	82.6
12.5°	100.7	100.7	100.7	99.4	98.2	97.6	96.3	95.1	93.2	90.1	88.2
15°	110.6	110.6	110.6	109.4	108.1	106.9	106.3	103.8	100.7	97.6	93.8
17.5°	123.0	121.8	121.8	120.5	119.3	118.7	117.4	115.0	110.6	106.9	101.9
20°	136.7	136.1	135.5	135.5	134.2	133.0	132.4	128.6	123.7	116.8	110.6
22.5°	152.2	151.6	151.6	152.9	152.2	150.4	150.4	144.8	137.9	129.9	120.5
25°	171.5	170.9	172.1	174.6	174.6	173.4	171.5	165.9	156.0	144.8	133.6
27.5°	192.6	192.0	194.5	198.8	200.1	198.2	197.0	190.8	179.6	164.7	148.5
30°	218.1	218.7	225.6	230.5	233.6	232.4	231.8	224.9	206.9	189.5	168.4
32.5°	249.2	247.3	256.0	264.1	269.7	272.8	270.9	262.8	247.3	220.0	193.2
35°	282.1	282.7	293.3	305.1	318.1	319.4	323.1	315.0	293.9	261.6	224.3
37.5°	325.0	320.0	333.7	356.0	371.6	385.2	382.8	377.8	352.9	310.1	259.1
40°	363.5	362.3	381.5	412.6	441.2	461.1	463.5	457.3	424.4	363.5	296.4
42.5°	407.6	411.3	438.1	480.9	524.4	553.0	546.2	543.1	504.6	426.9	347.3
45°	452.4	464.8	499.0	561.1	612.0	653.1	664.9	654.3	607.1	526.9	412.0
47.5°	506.4	523.2	565.4	649.3	732.6	780.4	782.9	814.6	743.2	623.2	479.1
50°	577.9	585.3	644.4	746.9	861.2	928.3	947.6	948.2	876.8	720.2	554.9
52.5°	648.1	653.7	731.4	863.7	1019.0	1095.5	1099.8	1124.1	1026.5	876.8	663.6
55°	732.6	730.1	837.0	996.1	1179.4	1290.6	1322.9	1355.8	1231.6	1000.4	725.8
57.5°	814.6	810.9	939.5	1148.3	1398.7	1509.3	1536.0	1512.4	1327.9	1052.0	756.2
60°	890.4	903.5	1060.1	1316.7	1568.3	1674.0	1692.0	1628.0	1390.0	1091.7	775.5
62.5°	969.3	995.4	1185.0	1457.1	1698.2	1774.0	1775.3	1700.1	1493.8	1168.8	838.2
65°	1043.3	1084.9	1281.9	1577.0	1788.9	1864.7	1873.4	1805.7	1595.7	1235.9	848.8
67.5°	1108.5	1163.8	1349.0	1641.7	1850.4	1899.5	1903.9	1806.3	1571.4	1208.6	819.6
70°	1161.3	1206.1	1390.6	1642.9	1807.6	1821.2	1818.1	1714.4	1504.3	1154.5	770.5
72.5°	1181.8	1218.5	1370.7	1565.9	1681.4	1678.3	1675.8	1580.1	1393.7	1064.4	699.7
75°	1152.6	1163.2	1262.0	1401.2	1474.5	1491.9	1494.4	1408.0	1222.9	930.8	600.2
77.5°	1032.1	1026.5	1102.3	1194.3	1249.6	1262.0	1259.5	1187.4	1025.3	773.6	503.3
80°	818.3	830.2	877.4	938.3	993.6	1007.2	998.5	943.9	797.8	603.4	386.5
82.5°	572.3	586.6	626.3	672.3	714.0	714.0	722.0	669.2	565.4	433.1	270.3
85°	308.8	300.7	344.2	396.4	426.3	431.9	435.0	417.6	349.8	261.6	160.3
87.5°	51.0	54.7	67.7	103.8	118.1	136.7	145.4	113.7	69.0	44.1	32.3
90°	32.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5
92.5°	37.6	37.1	37.1	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6
95°	42.7	42.7	42.7	41.7	41.7	41.7	41.7	41.7	41.7	41.7	41.7
97.5°	48.3	48.3	48.3	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8
100°	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9
102.5°	60.5	60.5	60.5	60.5	60.5	60.5	60.5	60.5	61.0	60.5	60.5
105°	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	68.1	67.1	67.1
107.5°	74.2	74.2	74.7	74.7	74.7	74.7	74.7	74.7	75.2	74.7	74.7
110°	81.3	81.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3



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CATALOG NUMBER: TT-D1-750-24VDC-DL-UPL

CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	42.5°	45°	55°	65°	75°	85°
112.5°	89.9	89.9	90.9	90.9	90.9	90.9	90.9	91.4	91.4	90.9	90.9
115°	98.6	98.6	99.6	99.6	99.6	99.6	99.6	100.6	100.6	99.6	99.6
117.5°	108.8	108.8	109.2	109.8	109.8	109.8	109.8	110.8	110.8	109.8	109.8
120°	118.9	118.9	118.9	119.9	119.9	119.9	119.9	121.0	121.0	119.9	119.9
122.5°	130.6	130.6	131.1	131.6	131.6	131.6	131.6	132.6	132.6	132.1	132.1
125°	142.3	142.3	143.3	143.3	143.3	143.3	143.3	144.3	144.3	144.3	144.3
127.5°	155.0	155.0	156.0	156.0	156.0	156.0	156.0	157.0	157.0	157.0	157.0
130°	167.7	167.7	168.7	168.7	168.7	168.7	168.7	169.7	169.7	169.7	169.7
132.5°	180.9	180.9	181.4	181.4	181.4	181.8	181.9	182.4	182.4	182.4	182.4
135°	194.1	194.1	194.1	194.1	194.1	194.8	195.1	195.1	195.1	195.1	195.1
137.5°	206.8	206.3	206.8	206.3	206.8	207.2	207.3	207.3	207.3	207.3	207.3
140°	219.5	218.5	219.5	218.5	219.5	219.5	219.5	219.5	219.5	219.5	219.5
142.5°	231.2	230.7	231.2	230.2	231.2	231.2	231.2	231.2	231.2	231.2	231.2
145°	242.9	242.9	242.9	241.9	242.9	242.9	242.9	242.9	242.9	242.9	242.9
147.5°	255.1	254.6	255.1	254.1	255.1	255.1	255.1	255.1	255.1	255.1	255.1
150°	267.3	266.3	267.3	266.3	267.3	267.3	267.3	267.3	267.3	267.3	267.3
152.5°	277.0	276.5	277.5	276.5	277.0	277.0	277.0	277.5	277.0	277.0	277.0
155°	286.6	286.6	287.6	286.6	286.6	286.6	286.6	287.6	286.6	286.6	286.6
157.5°	294.8	294.8	295.8	294.8	294.8	294.8	294.8	295.8	294.8	294.8	294.8
160°	302.9	302.9	303.9	302.9	302.9	302.9	302.9	303.9	302.9	302.9	302.9
162.5°	309.5	309.5	310.5	309.5	309.5	309.5	309.5	310.5	309.5	309.5	309.5
165°	316.1	316.1	317.1	316.1	316.1	316.1	316.1	317.1	316.1	316.1	316.1
167.5°	320.2	320.2	321.2	320.2	320.2	320.2	320.2	321.2	320.2	320.2	320.2
170°	324.2	324.2	325.2	324.2	324.2	324.2	324.2	325.2	324.2	324.2	324.2
172.5°	326.8	326.8	327.8	326.8	327.2	326.9	326.8	327.8	326.8	326.8	326.8
175°	329.3	329.3	330.3	329.3	330.3	329.6	329.3	330.3	329.3	329.3	329.3
177.5°	330.3	330.3	330.8	330.3	330.8	330.4	330.3	330.8	330.3	330.3	330.3
180°	331.3	331.3	331.3	331.3	331.3	331.3	331.3	331.3	331.3	331.3	331.3



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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1
2.5°	73.3	72.7	72.1	71.5	71.5	70.8	70.8	70.8	71.5	71.5	71.5
5°	75.2	74.6	73.9	73.3	72.1	72.1	72.1	72.1	72.1	72.1	72.1
7.5°	78.3	77.0	76.4	75.2	73.9	73.9	73.3	73.3	73.3	73.9	73.3
10°	82.0	80.8	79.5	77.7	77.0	76.4	75.8	75.8	76.4	76.4	75.8
12.5°	86.4	85.7	83.3	81.4	80.2	79.5	78.9	79.5	78.9	79.5	79.5
15°	92.6	90.7	87.6	85.7	83.9	83.3	82.6	83.3	83.3	83.9	83.3
17.5°	99.4	96.9	93.8	90.7	88.2	87.6	87.6	87.6	88.2	88.9	88.2
20°	107.5	104.4	100.0	96.3	93.8	93.2	93.2	93.8	94.4	95.1	95.1
22.5°	115.6	113.1	106.9	101.9	100.7	100.0	99.4	100.7	101.9	102.5	103.1
25°	128.0	123.0	115.6	110.0	107.5	107.5	108.1	109.4	110.0	111.2	110.6
27.5°	141.1	135.5	126.1	118.7	116.8	116.2	117.4	118.7	121.2	121.2	120.5
30°	159.1	149.8	137.9	131.1	126.1	126.8	128.6	130.5	133.0	134.2	134.2
32.5°	179.6	169.6	153.5	142.9	140.4	141.1	141.7	144.8	147.3	149.8	147.9
35°	206.3	193.9	174.0	162.2	156.0	155.3	157.8	161.6	164.0	165.3	165.3
37.5°	235.5	219.3	194.5	184.5	177.1	176.5	177.1	180.2	183.3	184.5	187.0
40°	270.9	251.0	221.8	205.7	200.1	198.8	201.3	205.7	205.7	207.5	208.2
42.5°	314.4	288.9	256.6	235.5	228.7	228.7	228.0	231.8	231.8	231.8	230.5
45°	369.7	341.1	298.9	277.1	265.3	259.1	261.0	258.5	257.9	259.7	254.1
47.5°	423.2	387.1	337.4	313.8	302.0	298.3	291.4	289.6	286.5	286.5	278.4
50°	485.3	440.6	392.7	359.2	348.0	337.4	331.8	323.1	313.8	311.9	308.8
52.5°	589.1	533.1	457.9	421.9	393.3	382.8	369.7	358.5	347.3	338.6	343.6
55°	631.3	574.1	502.7	467.9	448.0	438.1	413.8	398.9	382.1	369.7	376.6
57.5°	652.4	590.3	523.8	497.7	492.1	482.8	464.8	439.3	420.0	404.5	405.8
60°	664.2	599.0	535.0	511.4	508.3	514.5	505.2	487.8	457.9	442.4	440.6
62.5°	709.6	641.3	566.7	533.1	526.3	530.7	533.1	522.6	497.7	477.2	471.6
65°	718.9	646.2	572.9	551.2	551.8	553.0	554.9	543.7	531.3	505.8	500.8
67.5°	691.0	619.5	554.3	536.2	537.5	551.8	563.0	562.3	548.7	526.9	525.1
70°	648.7	579.1	518.8	502.7	505.8	518.8	543.1	555.5	553.0	538.7	541.8
72.5°	582.8	520.7	467.9	455.5	462.9	475.3	498.3	520.7	533.8	536.9	543.7
75°	505.8	456.1	406.4	398.9	404.5	418.8	439.9	466.0	494.6	510.1	514.5
77.5°	417.6	372.2	335.5	330.6	338.6	351.7	372.8	393.3	425.6	453.0	459.2
80°	326.8	287.7	261.6	257.2	262.2	273.4	289.6	306.3	337.4	358.5	361.6
82.5°	226.8	203.2	186.4	183.9	187.0	191.4	204.4	220.0	237.4	254.1	256.0
85°	131.7	116.8	112.5	108.7	115.6	115.6	118.7	127.4	136.1	137.3	141.1
87.5°	24.2	23.0	23.6	17.4	21.7	15.5	15.5	19.9	14.9	17.4	14.3
90°	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	32.5
92.5°	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	37.1	37.1	37.6
95°	41.7	41.7	41.7	41.7	41.7	41.7	41.7	41.7	42.7	42.7	42.7
97.5°	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	48.3	48.3	48.3
100°	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9
102.5°	60.5	60.5	60.5	61.0	60.5	60.5	60.5	60.5	60.5	60.5	60.5
105°	67.1	67.1	67.1	68.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1
107.5°	74.7	74.7	74.7	75.2	74.7	74.7	74.7	74.7	74.7	74.2	74.2
110°	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3	81.3	81.3



REPORT NUMBER: P821340

CATALOG NUMBER: TT-D1-750-24VDC-DL-UPL

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	90.9	90.9	90.9	91.4	91.4	90.9	90.9	90.9	90.9	89.9	89.9
115°	99.6	99.6	99.6	100.6	100.6	99.6	99.6	99.6	99.6	98.6	98.6
117.5°	109.8	109.8	109.8	110.8	110.8	109.8	109.8	109.8	109.2	108.8	108.8
120°	119.9	119.9	119.9	121.0	121.0	119.9	119.9	119.9	118.9	118.9	118.9
122.5°	131.6	132.1	132.1	132.6	132.6	131.6	131.6	131.6	131.1	130.6	130.6
125°	143.3	144.3	144.3	144.3	144.3	143.3	143.3	143.3	143.3	142.3	142.3
127.5°	156.0	157.0	157.0	157.0	157.0	156.0	156.0	156.0	156.0	155.0	155.0
130°	168.7	169.7	169.7	169.7	169.7	168.7	168.7	168.7	168.7	167.7	167.7
132.5°	181.9	182.4	182.4	182.4	182.4	181.9	181.4	181.4	181.4	180.9	180.9
135°	195.1	195.1	195.1	195.1	195.1	195.1	194.1	194.1	194.1	194.1	194.1
137.5°	207.3	207.3	207.3	207.3	207.3	207.3	206.8	206.3	206.8	206.3	206.8
140°	219.5	219.5	219.5	219.5	219.5	219.5	219.5	218.5	219.5	218.5	219.5
142.5°	231.2	231.2	231.2	231.2	231.2	231.2	231.2	230.2	231.2	230.7	231.2
145°	242.9	242.9	242.9	242.9	242.9	242.9	242.9	241.9	242.9	242.9	242.9
147.5°	255.1	255.1	255.1	255.1	255.1	255.1	255.1	254.1	255.1	254.6	255.1
150°	267.3	267.3	267.3	267.3	267.3	267.3	267.3	266.3	267.3	266.3	267.3
152.5°	277.0	277.0	277.0	277.0	277.5	277.0	277.0	276.5	277.5	276.5	277.0
155°	286.6	286.6	286.6	286.6	287.6	286.6	286.6	286.6	287.6	286.6	286.6
157.5°	294.8	294.8	294.8	294.8	295.8	294.8	294.8	294.8	295.8	294.8	294.8
160°	302.9	302.9	302.9	302.9	303.9	302.9	302.9	302.9	303.9	302.9	302.9
162.5°	309.5	309.5	309.5	309.5	310.5	309.5	309.5	309.5	310.5	309.5	309.5
165°	316.1	316.1	316.1	316.1	317.1	316.1	316.1	316.1	317.1	316.1	316.1
167.5°	320.2	320.2	320.2	320.2	321.2	320.2	320.2	320.2	321.2	320.2	320.2
170°	324.2	324.2	324.2	324.2	325.2	324.2	324.2	324.2	325.2	324.2	324.2
172.5°	326.8	326.8	326.8	326.8	327.8	326.8	327.2	326.8	327.8	326.8	326.8
175°	329.3	329.3	329.3	329.3	330.3	329.3	330.3	329.3	330.3	329.3	329.3
177.5°	330.3	330.3	330.3	330.3	330.8	330.3	330.8	330.3	330.8	330.3	330.3
180°	331.3	331.3	331.3	331.3	331.3	331.3	331.3	331.3	331.3	331.3	331.3

(END OF REPORT)