

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: P198321

Luminaire Tested: **TT-C2-LED-E1-MQ-LWR-LW-UPL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P198321
REPORT IS FROM IESNA LM-79-08 TEST DATA - UPLIGHT (P27139) AND DOWNLIGHT
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: TT-C2-LED-E1-MQ-LWR-LW-UPL
Description: TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
MEDIUM DISTRIBUTION WITH LumaWatt WIRELESS SENSOR
Light Source: (168) 4000K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5062.7 lumens
Efficiency: N/A
Efficacy: 98.5 lumens/watt
Luminous Opening: Vertical Cylinder (Dia: 1.12' x H: 0.1')
IES Classification: Type V - Short - Semi-Cutoff
BUG Rating: B2 - U4 - G1

Input Watts (W): 51.4
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



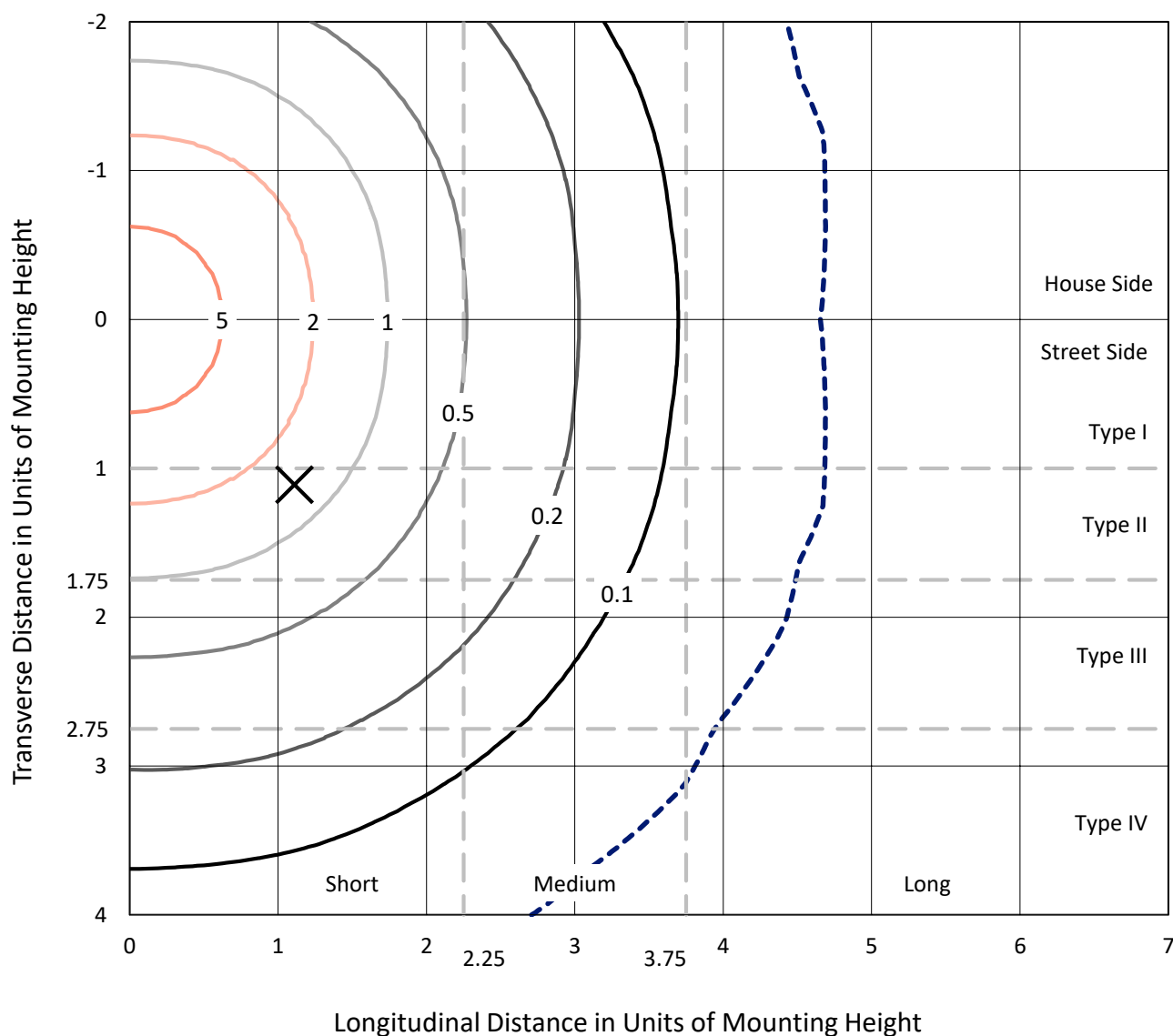
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Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

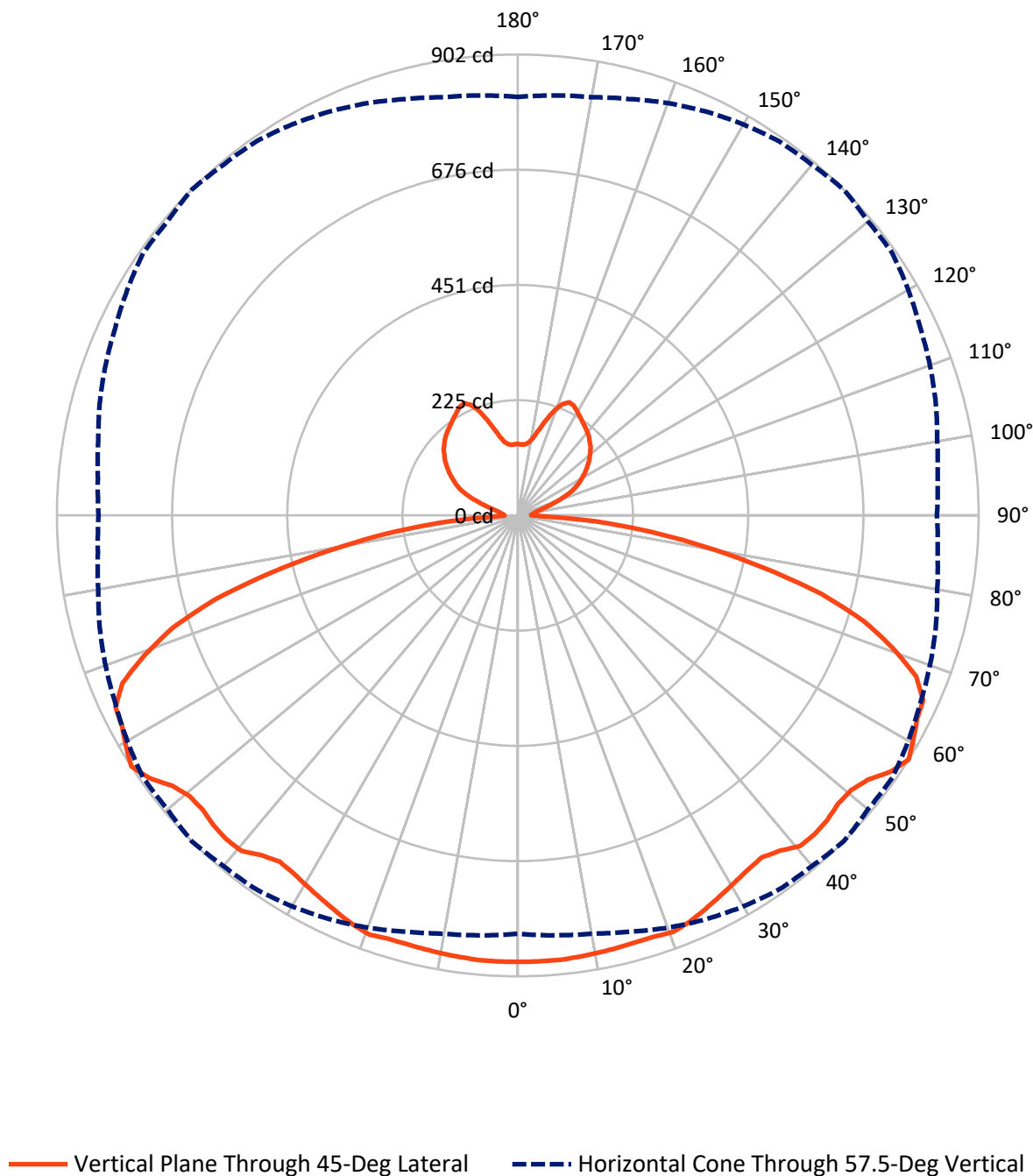


Based on 10 foot mounting height. Maximum calculated value = 8.7 fc
 Type V - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



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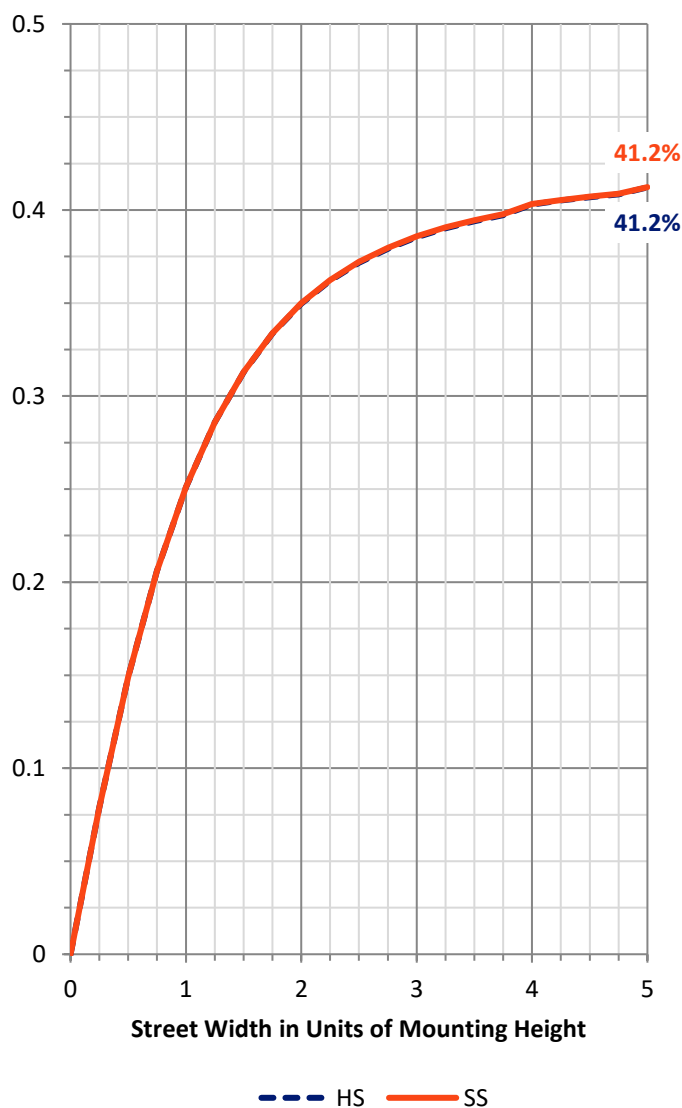
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2119.4	412.0	2531.3
	% Fixture	41.9	8.1	50.0
Street Side	Lumens	2119.4	412.0	2531.3
	% Fixture	41.9	8.1	50.0
Total	Lumens	4238.7	824.0	5062.7
	% Fixture	83.7	16.3	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.2	1.6
10°-20°	245.5	4.8
20°-30°	393.2	7.8
30°-40°	517.6	10.2
40°-50°	644.7	12.7
50°-60°	759.4	15.0
60°-70°	807.4	15.9
70°-80°	605.5	12.0
80°-90°	182.2	3.6
90°-100°	38.3	0.8
100°-110°	59.4	1.2
110°-120°	119.3	2.4
120°-130°	148.7	2.9
130°-140°	153.2	3.0
140°-150°	136.0	2.7
150°-160°	103.7	2.0
160°-170°	51.8	1.0
170°-180°	13.6	0.3
0°-90°	4238.7	83.7
0°-180°	5062.7	100.0

Coefficient of Utilization



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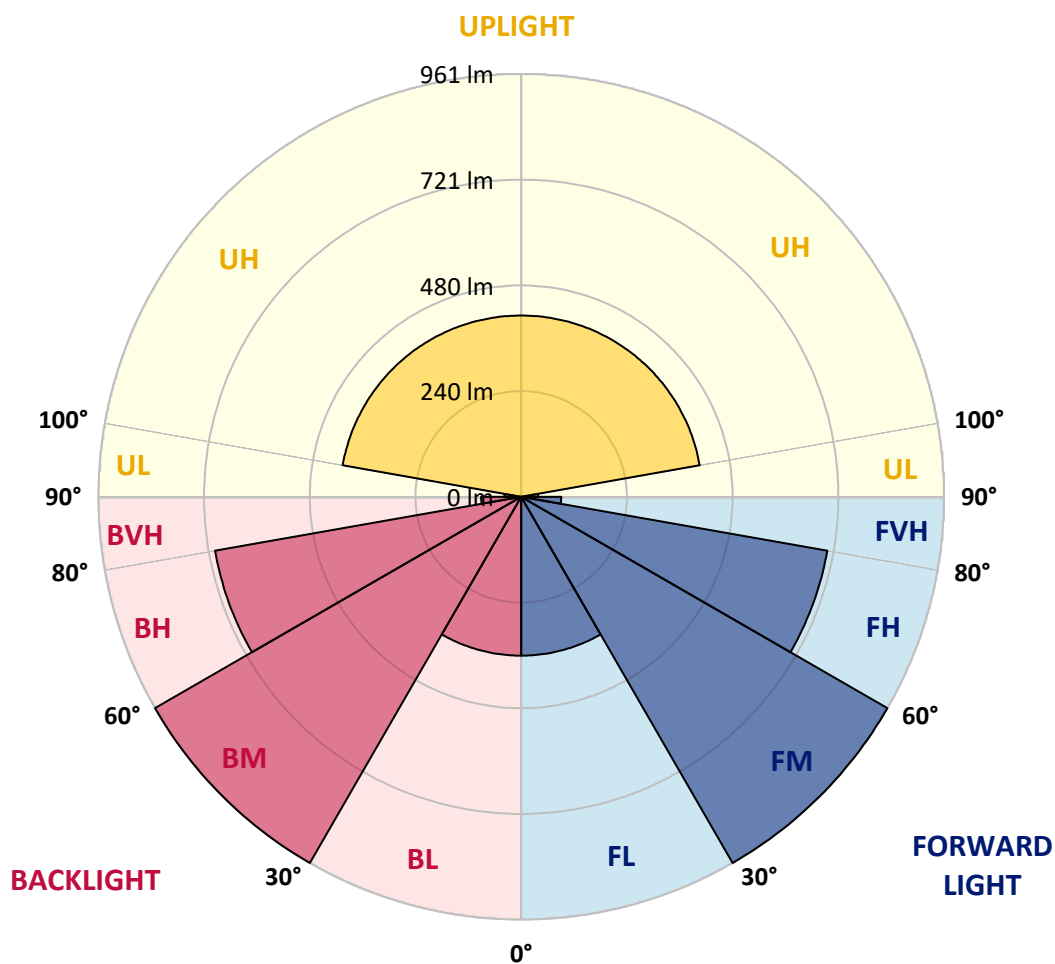
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	361.0	7.1			
FM	(30°-60°)	960.9	19.0			
FH	(60°-80°)	706.4	14.0			G1/1800
FVH	(80°-90°)	91.1	1.8			G1/100
BL	(0°-30°)	361.0	7.1	B1/500		
BM	(30°-60°)	960.9	19.0	B1/1000		
BH	(60°-80°)	706.4	14.0	B2/1000		G1/1800
BVH	(80°-90°)	91.1	1.8			G1/100
UL	(90°-100°)	38.3	0.8		U2/50	
UH	(100°-180°)	412.0	8.1		U3/500	

BUG Rating: B2-U4-G1

Type V Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	873.4	873.4	873.4	873.4	873.4	873.4	873.4	873.4	873.4	873.4	873.4
2.5°	872.5	872.5	872.5	873.4	873.4	873.4	873.4	873.4	873.4	873.4	873.4
5°	872.5	872.5	872.5	872.5	872.5	872.5	873.4	873.4	873.4	873.4	873.4
7.5°	870.8	870.8	870.8	870.8	870.8	871.7	871.7	871.7	871.7	871.7	871.7
10°	869.0	869.0	869.0	869.0	869.9	869.9	869.9	869.9	869.9	869.9	869.9
12.5°	867.2	867.2	866.3	867.2	867.2	867.2	868.1	868.1	868.1	868.1	868.1
15°	863.7	863.7	864.6	864.6	865.5	865.5	865.5	865.5	866.3	866.3	866.3
17.5°	861.9	861.9	862.8	863.7	863.7	864.6	865.5	865.5	866.3	866.3	866.3
20°	864.6	864.6	864.6	865.5	866.3	867.2	868.1	869.0	869.0	869.9	869.0
22.5°	859.2	859.2	859.2	860.1	860.1	860.1	861.0	861.9	861.9	862.8	861.9
25°	849.5	849.5	850.4	850.4	851.3	851.3	852.2	852.2	852.2	853.0	853.0
27.5°	839.7	838.9	840.6	840.6	841.5	841.5	842.4	843.3	843.3	843.3	844.2
30°	829.1	829.1	830.0	830.0	830.9	831.8	832.6	833.5	833.5	834.4	834.4
32.5°	817.6	818.5	819.3	820.2	821.1	822.9	823.8	824.7	825.6	826.4	825.6
35°	809.6	810.5	811.4	813.1	815.8	817.6	819.3	821.1	822.0	822.0	822.0
37.5°	811.4	812.2	814.0	817.6	822.0	824.7	828.2	830.9	831.8	832.6	832.6
40°	821.1	822.9	825.6	830.0	835.3	839.7	845.1	847.7	849.5	850.4	849.5
42.5°	820.2	822.9	825.6	830.9	837.1	841.5	846.8	849.5	851.3	852.2	851.3
45°	817.6	819.3	822.0	827.3	831.8	838.0	843.3	845.9	848.6	849.5	848.6
47.5°	811.4	811.4	812.2	817.6	823.8	831.8	836.2	840.6	843.3	843.3	843.3
50°	803.4	806.9	808.7	815.8	822.0	829.1	837.1	843.3	844.2	845.1	844.2
52.5°	803.4	804.3	810.5	814.9	827.3	838.0	845.9	852.2	857.5	858.4	858.4
55°	817.6	819.3	822.9	833.5	843.3	859.2	872.5	877.9	881.4	885.0	881.4
57.5°	818.5	824.7	830.9	843.3	858.4	871.7	883.2	892.9	895.6	901.8	894.7
60°	807.8	809.6	815.8	830.9	850.4	864.6	875.2	884.1	892.9	889.4	892.9
62.5°	791.0	795.4	804.3	815.8	831.8	848.6	864.6	867.2	880.5	877.0	882.3
65°	777.7	781.2	790.1	806.9	826.4	837.1	854.8	865.5	864.6	871.7	863.7
67.5°	744.9	747.5	755.5	772.3	791.0	806.9	812.2	829.1	830.9	840.6	831.8
70°	690.8	697.0	708.5	724.5	739.5	752.8	762.6	771.5	776.8	778.6	776.8
72.5°	623.4	633.1	642.0	657.1	672.1	681.0	687.2	699.6	703.2	708.5	706.7
75°	554.2	554.2	563.1	574.6	586.1	591.5	595.0	603.0	607.4	613.6	608.3
77.5°	459.3	464.6	472.6	482.4	480.6	483.3	483.3	487.7	485.9	490.4	493.9
80°	360.0	365.3	372.4	379.5	378.6	372.4	376.9	371.5	369.8	370.7	373.3
82.5°	257.2	260.7	266.9	271.3	271.3	266.9	268.7	263.4	265.1	260.7	264.2
85°	147.2	151.6	156.1	160.5	160.5	157.8	160.5	153.4	154.3	154.3	154.3
87.5°	36.4	39.9	41.7	44.3	42.6	47.0	49.7	45.2	46.1	44.3	47.0
90°	36.0	36.0	36.0	36.0	35.0	34.0	31.0	29.0	27.0	26.0	26.0
92.5°	40.0	39.0	39.0	38.0	36.0	34.0	32.0	29.0	27.0	27.0	27.0
95°	44.0	43.0	42.0	41.0	38.0	36.0	34.0	32.0	31.0	30.0	30.0
97.5°	42.0	42.0	41.0	40.0	38.0	37.0	36.0	35.0	34.0	33.0	32.0
100°	45.0	45.0	45.0	44.0	42.0	40.0	39.0	38.0	36.0	36.0	35.0
102.5°	51.0	51.0	50.0	49.0	47.0	46.0	45.0	44.0	42.0	42.0	42.0
105°	60.0	60.0	59.0	57.0	55.0	54.0	53.0	53.0	51.0	52.0	52.0
107.5°	72.0	72.0	72.0	70.0	68.0	67.0	66.0	66.0	66.0	68.0	68.0
110°	86.0	86.0	87.0	89.0	86.0	85.0	85.0	86.0	86.0	87.0	86.0

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CATALOG NUMBER: TT-C2-LED-E1-MQ-LWR-LW-UPL

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	101.0	102.0	104.0	108.0	106.0	107.0	107.0	110.0	108.0	107.0	103.0
115°	121.0	122.0	123.0	128.0	126.0	128.0	127.0	129.0	126.0	124.0	120.0
117.5°	140.0	141.0	141.0	144.0	141.0	141.0	140.0	141.0	138.0	136.0	135.0
120°	152.0	153.0	154.0	155.0	151.0	149.0	147.0	149.0	147.0	147.0	148.0
122.5°	161.0	162.0	163.0	164.0	159.0	154.0	153.0	155.0	156.0	158.0	158.0
125°	169.0	169.0	170.0	172.0	168.0	163.0	160.0	165.0	166.0	168.0	167.0
127.5°	177.0	177.0	179.0	181.0	177.0	171.0	170.0	176.0	177.0	178.0	175.0
130°	187.0	188.0	190.0	191.0	185.0	179.0	179.0	186.0	187.0	186.0	183.0
132.5°	198.0	199.0	200.0	201.0	193.0	186.0	187.0	193.0	195.0	195.0	191.0
135°	210.0	210.0	211.0	209.0	199.0	192.0	193.0	199.0	202.0	201.0	197.0
137.5°	221.0	219.0	217.0	213.0	203.0	197.0	198.0	205.0	207.0	208.0	203.0
140°	229.0	226.0	222.0	216.0	205.0	200.0	201.0	207.0	210.0	213.0	212.0
142.5°	235.0	231.0	225.0	218.0	206.0	201.0	202.0	208.0	212.0	218.0	218.0
145°	235.0	230.0	225.0	218.0	207.0	202.0	204.0	211.0	215.0	223.0	225.0
147.5°	230.0	227.0	223.0	219.0	210.0	207.0	209.0	216.0	220.0	229.0	233.0
150°	224.0	221.0	219.0	220.0	215.0	214.0	216.0	222.0	227.0	235.0	239.0
152.5°	216.0	214.0	216.0	221.0	220.0	220.0	224.0	230.0	234.0	241.0	241.0
155°	208.0	207.0	211.0	219.0	222.0	224.0	229.0	237.0	239.0	243.0	239.0
157.5°	203.0	203.0	207.0	216.0	220.0	224.0	229.0	234.0	232.0	235.0	230.0
160°	199.0	198.0	203.0	210.0	212.0	213.0	216.0	219.0	216.0	219.0	216.0
162.5°	185.0	184.0	188.0	193.0	194.0	193.0	196.0	198.0	195.0	198.0	196.0
165°	169.0	167.0	169.0	173.0	173.0	173.0	175.0	176.0	174.0	177.0	175.0
167.5°	154.0	152.0	153.0	156.0	156.0	155.0	157.0	159.0	157.0	159.0	158.0
170°	142.0	141.0	142.0	145.0	144.0	144.0	146.0	147.0	146.0	147.0	147.0
172.5°	137.0	135.0	136.0	139.0	139.0	138.0	140.0	141.0	140.0	141.0	140.0
175°	136.0	134.0	135.0	137.0	137.0	137.0	138.0	139.0	138.0	139.0	138.0
177.5°	137.0	136.0	136.0	139.0	138.0	138.0	139.0	140.0	139.0	139.0	138.0
180°	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0

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CATALOG NUMBER: TT-C2-LED-E1-MQ-LWR-LW-UPL

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	873.4	873.4	873.4	873.4	873.4	873.4	873.4	873.4
2.5°	873.4	872.5	873.4	873.4	873.4	873.4	872.5	872.5
5°	873.4	873.4	873.4	872.5	872.5	872.5	872.5	872.5
7.5°	871.7	871.7	871.7	870.8	870.8	870.8	870.8	870.8
10°	869.9	869.9	869.0	869.0	869.0	869.0	869.0	869.0
12.5°	868.1	868.1	867.2	867.2	867.2	867.2	867.2	866.3
15°	866.3	866.3	865.5	865.5	864.6	864.6	863.7	863.7
17.5°	866.3	865.5	864.6	863.7	863.7	862.8	861.9	861.9
20°	869.0	868.1	867.2	866.3	865.5	864.6	864.6	863.7
22.5°	861.9	861.0	860.1	860.1	859.2	859.2	859.2	858.4
25°	853.0	852.2	852.2	850.4	850.4	849.5	849.5	848.6
27.5°	843.3	842.4	842.4	841.5	840.6	839.7	838.9	838.9
30°	833.5	832.6	832.6	831.8	830.0	830.0	829.1	828.2
32.5°	824.7	824.7	823.8	822.0	820.2	819.3	817.6	817.6
35°	822.0	820.2	818.5	815.8	813.1	811.4	810.5	809.6
37.5°	831.8	829.1	824.7	822.0	818.5	814.9	813.1	811.4
40°	848.6	844.2	839.7	835.3	830.0	825.6	822.0	821.1
42.5°	849.5	846.8	842.4	837.1	830.9	825.6	822.0	821.1
45°	846.8	843.3	838.0	831.8	827.3	821.1	818.5	817.6
47.5°	840.6	837.1	831.8	822.9	816.7	812.2	811.4	811.4
50°	844.2	837.1	828.2	822.9	816.7	809.6	806.9	805.2
52.5°	852.2	845.1	839.7	828.2	814.9	808.7	805.2	802.5
55°	877.9	874.3	858.4	842.4	832.6	824.7	821.1	819.3
57.5°	894.7	882.3	869.0	858.4	846.8	833.5	824.7	820.2
60°	885.8	872.5	866.3	852.2	828.2	814.0	808.7	806.0
62.5°	866.3	866.3	849.5	827.3	818.5	806.0	796.3	792.7
65°	865.5	853.9	837.1	829.1	807.8	789.2	779.4	777.7
67.5°	828.2	812.2	807.8	790.1	772.3	755.5	748.4	744.9
70°	771.5	766.1	752.8	741.3	725.3	707.6	697.9	694.3
72.5°	699.6	690.8	684.6	674.8	659.7	637.6	629.6	625.1
75°	602.1	597.7	597.7	587.0	572.8	559.5	558.6	556.9
77.5°	484.2	485.9	490.4	478.8	483.3	476.2	470.0	465.5
80°	368.0	376.0	376.9	379.5	382.2	372.4	368.0	362.7
82.5°	261.6	266.0	271.3	272.2	274.0	266.9	263.4	258.0
85°	154.3	157.0	161.4	161.4	161.4	155.2	153.4	149.0
87.5°	45.2	45.2	47.9	45.2	45.2	45.2	40.8	43.5
90°	28.0	30.0	32.0	33.0	34.0	34.0	34.0	34.0
92.5°	28.0	30.0	32.0	33.0	35.0	36.0	36.0	36.0
95°	30.0	32.0	34.0	35.0	37.0	38.0	39.0	38.0
97.5°	33.0	34.0	34.0	35.0	36.0	36.0	36.0	36.0
100°	36.0	37.0	38.0	38.0	38.0	38.0	37.0	37.0
102.5°	43.0	44.0	44.0	42.0	42.0	41.0	41.0	41.0
105°	54.0	54.0	53.0	51.0	49.0	48.0	48.0	49.0
107.5°	68.0	68.0	66.0	63.0	60.0	59.0	59.0	60.0
110°	84.0	83.0	84.0	81.0	78.0	76.0	74.0	75.0

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	102.0	102.0	105.0	103.0	100.0	98.0	95.0	94.0
115°	121.0	123.0	125.0	124.0	123.0	121.0	116.0	113.0
117.5°	138.0	140.0	141.0	139.0	139.0	139.0	133.0	129.0
120°	150.0	151.0	153.0	148.0	148.0	148.0	145.0	142.0
122.5°	159.0	160.0	162.0	156.0	155.0	156.0	153.0	150.0
125°	167.0	167.0	168.0	164.0	163.0	164.0	160.0	158.0
127.5°	176.0	175.0	175.0	173.0	173.0	173.0	166.0	163.0
130°	183.0	182.0	183.0	181.0	184.0	181.0	171.0	169.0
132.5°	190.0	189.0	192.0	189.0	192.0	190.0	179.0	176.0
135°	196.0	197.0	201.0	199.0	199.0	195.0	185.0	184.0
137.5°	203.0	205.0	210.0	207.0	204.0	198.0	191.0	190.0
140°	212.0	214.0	217.0	214.0	209.0	202.0	195.0	195.0
142.5°	220.0	222.0	223.0	217.0	211.0	204.0	198.0	198.0
145°	230.0	230.0	227.0	217.0	211.0	205.0	201.0	202.0
147.5°	239.0	236.0	229.0	218.0	212.0	207.0	204.0	206.0
150°	242.0	240.0	232.0	220.0	214.0	211.0	210.0	211.0
152.5°	242.0	241.0	235.0	223.0	219.0	217.0	215.0	216.0
155°	238.0	237.0	234.0	227.0	224.0	223.0	220.0	219.0
157.5°	228.0	229.0	229.0	226.0	226.0	225.0	222.0	219.0
160°	215.0	217.0	219.0	219.0	221.0	222.0	218.0	215.0
162.5°	196.0	199.0	200.0	201.0	204.0	208.0	207.0	207.0
165°	176.0	179.0	181.0	181.0	185.0	189.0	190.0	192.0
167.5°	160.0	163.0	165.0	164.0	168.0	171.0	172.0	174.0
170°	148.0	150.0	152.0	152.0	155.0	158.0	159.0	160.0
172.5°	141.0	144.0	145.0	144.0	146.0	149.0	149.0	151.0
175°	138.0	140.0	141.0	140.0	141.0	143.0	143.0	144.0
177.5°	138.0	140.0	140.0	138.0	140.0	141.0	141.0	141.0
180°	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0

(END OF REPORT)