

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: P198323

Luminaire Tested: **TT-C2-LED-E1-MQ-MS/DIM-UPL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P198323
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-MS/DIM-UPL
Description: TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
MEDIUM DISTRIBUTION WITH DIMMING OCCUPANCY SENSOR
Light Source: (168) 4000K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5482 lumens
Efficiency: N/A
Efficacy: 106.7 lumens/watt
Luminous Opening: Vertical Cylinder (Dia: 1.12' x H: 0.1')
IES Classification: Type V - Short - Semi-Cutoff
BUG Rating: B2 - U4 - G2

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

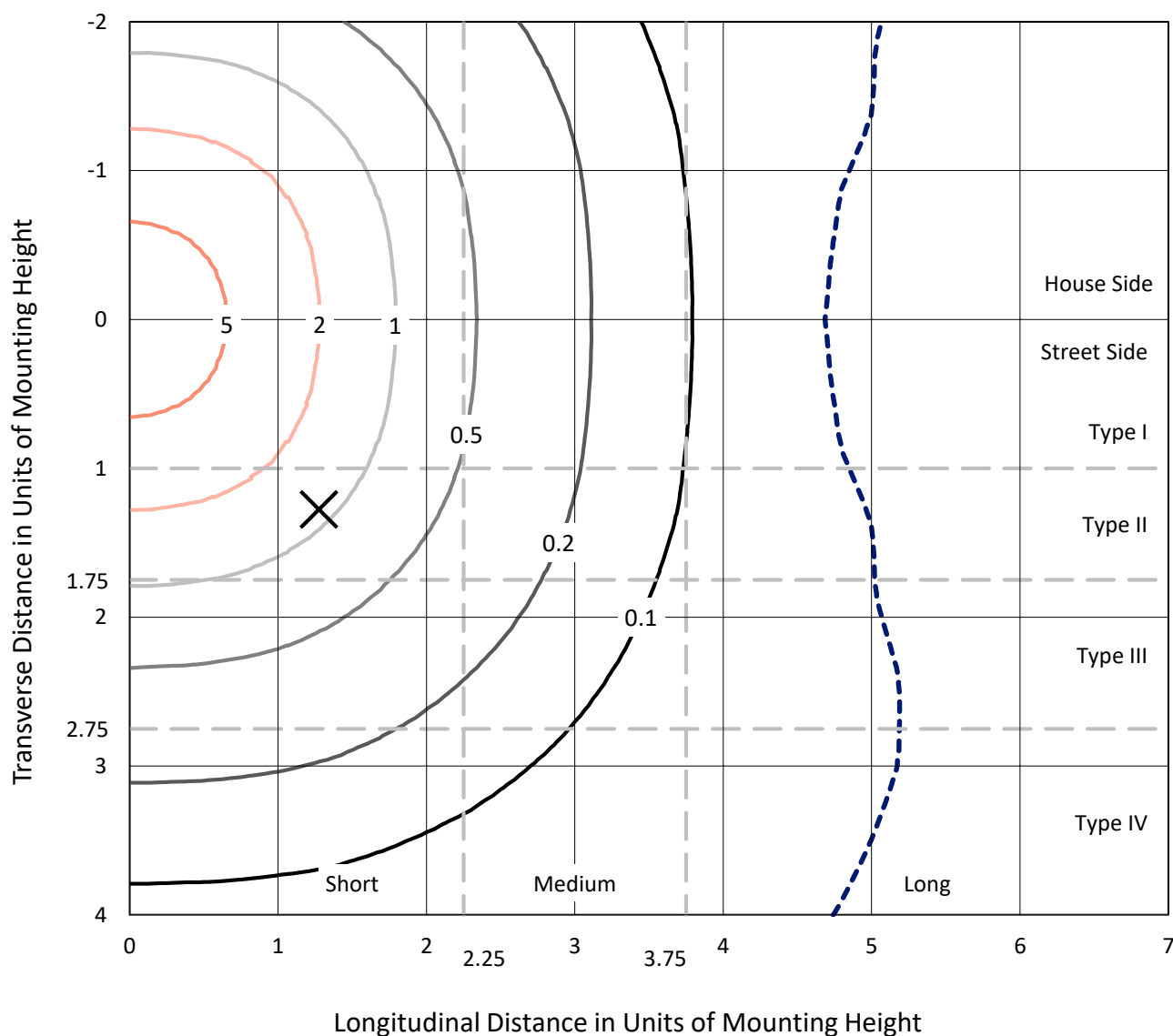


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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd
 - - - 1/2 Max cd

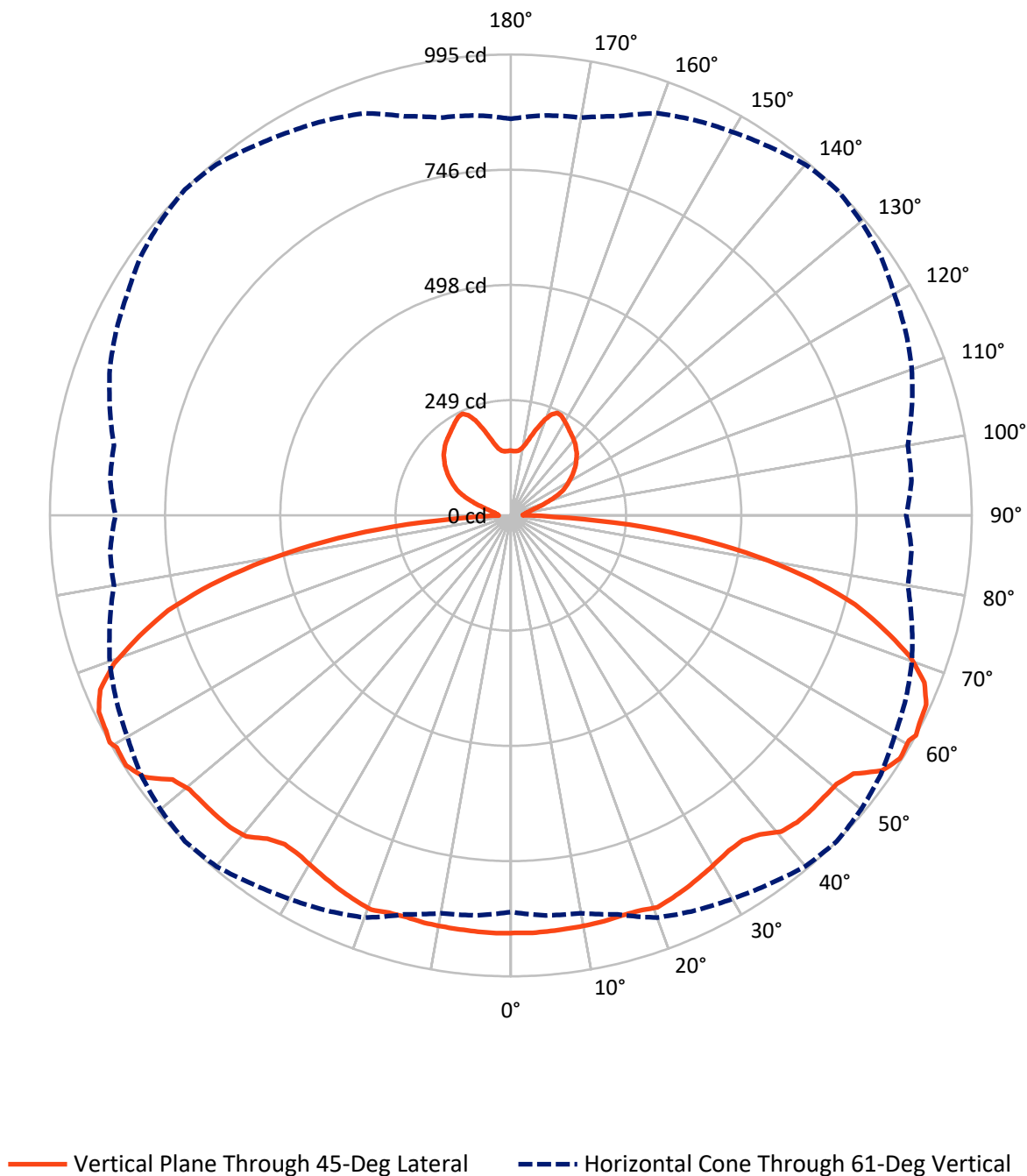


Based on 10 foot mounting height. Maximum calculated value = 9 fc
 Type V - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



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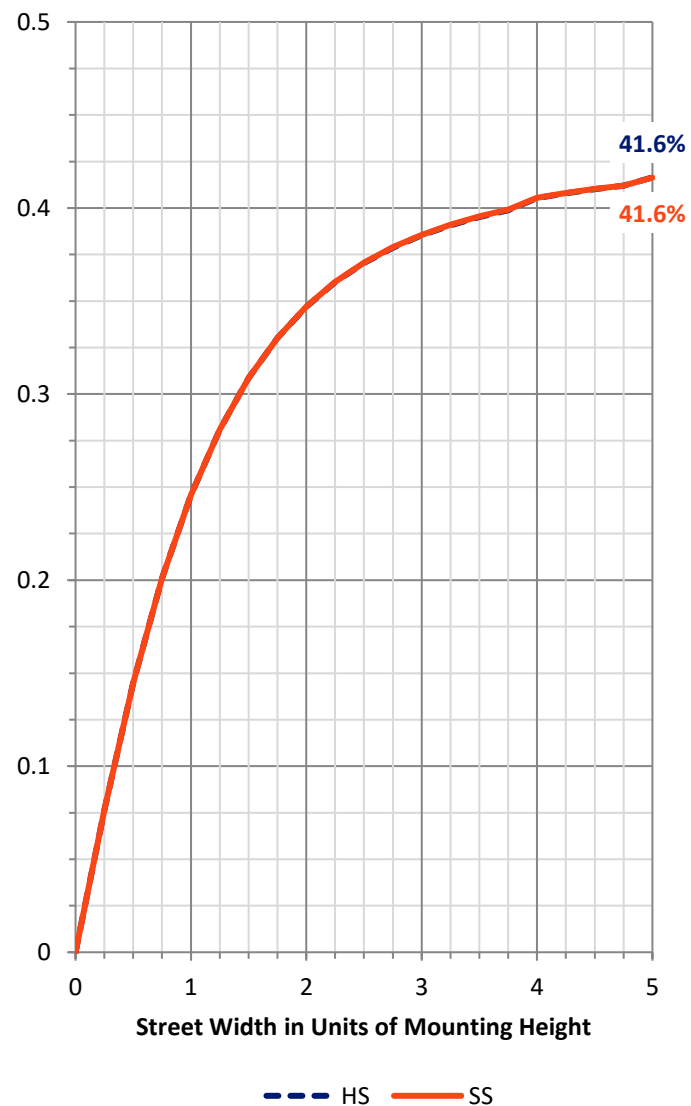
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2329.0	412.0	2741.0
	% Fixture	42.5	7.5	50.0
Street Side	Lumens	2329.0	412.0	2741.0
	% Fixture	42.5	7.5	50.0
Total	Lumens	4658.0	824.0	5482.0
	% Fixture	85.0	15.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.0	1.6
10°-20°	254.3	4.6
20°-30°	409.2	7.5
30°-40°	542.0	9.9
40°-50°	684.5	12.5
50°-60°	820.1	15.0
60°-70°	896.8	16.4
70°-80°	717.9	13.1
80°-90°	247.3	4.5
90°-100°	38.3	0.7
100°-110°	59.4	1.1
110°-120°	119.3	2.2
120°-130°	148.7	2.7
130°-140°	153.2	2.8
140°-150°	136.0	2.5
150°-160°	103.7	1.9
160°-170°	51.8	0.9
170°-180°	13.6	0.2
0°-90°	4658.0	85.0
0°-180°	5482.0	100.0

Coefficient of Utilization



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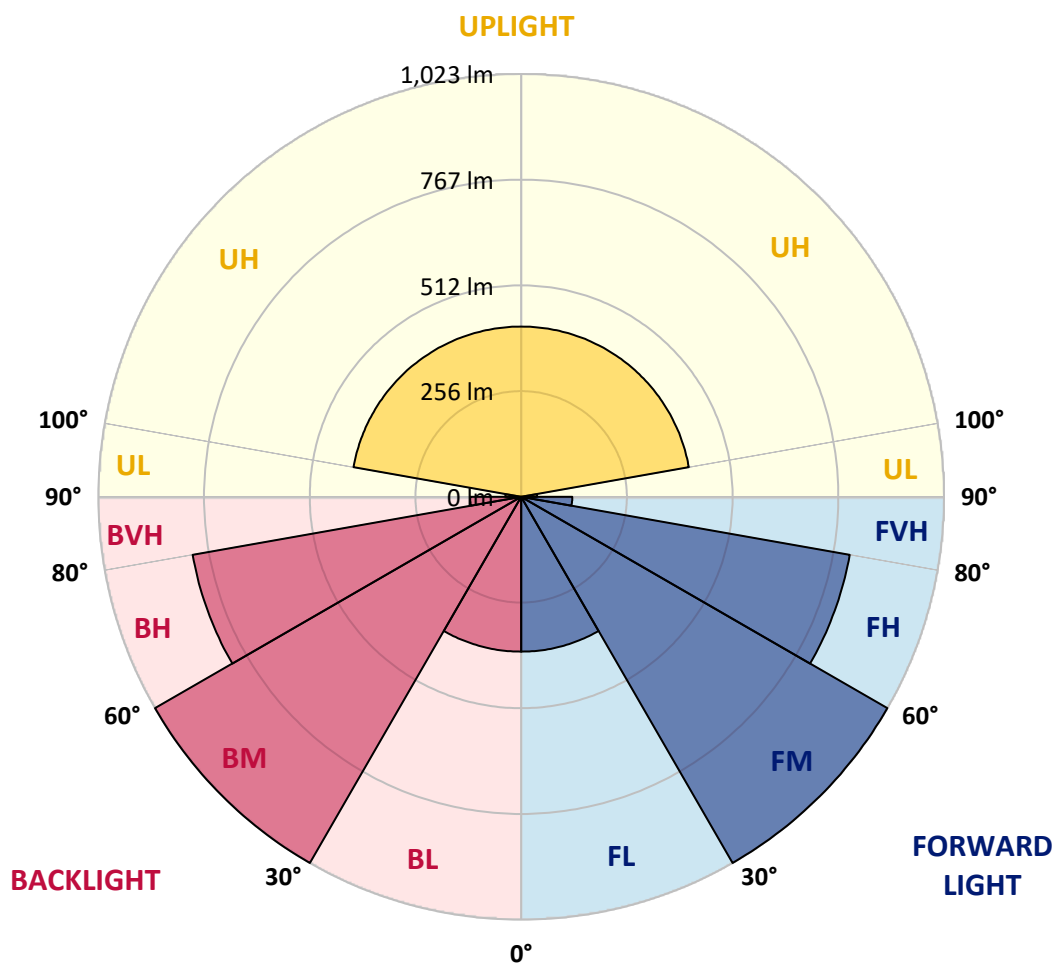
CATALOG NUMBER: TT-C2-LED-E1-MQ-MS/DIM-UPL

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	374.7	6.8			
FM	(30°-60°)	1023.3	18.7			
FH	(60°-80°)	807.3	14.7			G1/1800
FVH	(80°-90°)	123.6	2.3			G2/225
BL	(0°-30°)	374.7	6.8	B1/500		
BM	(30°-60°)	1023.3	18.7	B2/2500		
BH	(60°-80°)	807.3	14.7	B2/1000		G1/1800
BVH	(80°-90°)	123.6	2.3			G2/225
UL	(90°-100°)	38.3	0.7		U2/50	
UH	(100°-180°)	412.0	7.5		U3/500	

BUG Rating: B2-U4-G2

Type V Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	901.6	901.6	901.6	901.6	901.6	901.6	901.6	901.6	901.6	901.6	901.6
2.5°	902.5	901.6	902.5	902.5	902.5	902.5	902.5	902.5	902.5	902.5	902.5
5°	901.6	901.6	901.6	901.6	901.6	901.6	901.6	901.6	901.6	901.6	901.6
7.5°	900.7	900.7	900.7	900.7	900.7	900.7	900.7	900.7	901.6	900.7	901.6
10°	899.1	899.1	899.1	899.1	899.9	899.9	899.9	899.9	899.9	899.9	899.9
12.5°	897.3	897.3	897.3	897.3	898.2	898.2	898.2	898.2	899.1	899.1	898.2
15°	895.5	894.7	894.7	895.5	895.5	896.4	896.4	896.4	897.3	896.4	896.4
17.5°	893.8	892.9	893.8	894.7	894.7	895.5	896.4	896.4	897.3	897.3	897.3
20°	896.4	895.5	896.4	897.3	898.2	899.9	900.7	901.6	902.5	903.3	903.3
22.5°	891.3	890.4	891.3	891.3	892.1	892.9	894.7	895.5	896.4	896.4	896.4
25°	883.5	883.5	884.2	884.2	885.1	886.0	886.9	887.7	887.7	888.6	887.7
27.5°	874.8	874.8	875.6	875.6	877.3	877.3	878.2	879.1	879.9	879.9	879.9
30°	864.3	864.3	865.2	866.1	867.8	868.6	869.5	870.4	871.3	871.3	871.3
32.5°	854.8	853.9	854.8	856.5	859.2	860.8	862.6	863.5	863.5	863.5	864.3
35°	847.0	847.9	849.6	851.4	854.8	856.5	858.3	860.8	861.7	861.7	861.7
37.5°	848.7	849.6	852.2	855.7	860.0	865.2	868.6	872.1	874.8	873.9	873.0
40°	860.0	861.7	866.1	871.3	878.2	885.1	890.4	894.7	897.3	898.2	897.3
42.5°	861.7	863.5	867.0	874.8	882.6	890.4	897.3	901.6	905.1	906.0	905.1
45°	860.8	860.8	866.1	874.8	882.6	890.4	899.1	905.1	908.5	908.5	908.5
47.5°	854.8	857.4	860.8	869.5	879.9	887.7	896.4	902.5	906.8	909.4	906.8
50°	854.8	854.8	860.8	867.0	876.4	890.4	902.5	908.5	912.9	912.0	912.9
52.5°	853.0	858.3	861.7	870.4	887.7	901.6	911.1	919.8	925.9	926.7	925.0
55°	868.6	869.5	877.3	893.8	910.3	925.9	943.2	956.3	966.6	972.7	964.1
57.5°	880.8	876.4	892.1	906.0	925.0	948.4	974.4	984.8	992.6	990.9	993.5
60°	864.3	870.4	881.7	896.4	926.7	950.1	964.1	975.3	984.8	987.5	984.0
61°	856.5	867.0	872.1	892.1	924.2	941.5	956.3	971.9	989.2	995.3	987.5
62.5°	843.5	860.0	858.3	890.4	910.3	930.2	957.9	976.2	988.4	990.0	988.4
65°	844.4	841.8	861.7	885.1	905.1	940.6	964.1	975.3	982.2	985.7	984.0
67.5°	816.7	808.0	832.3	848.7	882.6	910.3	932.8	949.3	959.7	963.2	958.8
70°	752.5	758.6	775.9	801.1	828.8	862.6	883.5	905.1	913.8	914.6	914.6
72.5°	690.9	694.4	711.8	735.2	767.2	796.7	817.5	834.9	842.7	843.5	845.2
75°	609.5	612.9	632.9	654.5	686.6	711.8	726.5	747.3	758.6	768.1	760.3
77.5°	514.9	521.0	536.7	560.1	589.5	603.4	629.4	653.7	661.5	664.1	661.5
80°	408.3	416.1	430.0	461.2	474.2	496.7	521.9	532.3	539.2	541.0	541.8
82.5°	293.9	300.0	314.7	336.3	351.1	369.3	386.6	399.7	407.5	405.8	404.9
85°	173.4	175.1	190.7	205.5	216.7	228.0	241.9	251.4	253.2	256.6	255.7
87.5°	52.1	52.8	59.9	67.7	72.8	78.0	86.7	98.0	100.6	93.6	94.5
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

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CATALOG NUMBER: TT-C2-LED-E1-MQ-MS/DIM-UPL

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
110°	86.0	86.0	87.0	89.0	86.0	85.0	85.0	86.0	86.0	87.0	86.0
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-MS/DIM-UPL

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	901.6	901.6	901.6	901.6	901.6	901.6	901.6	901.6
2.5°	902.5	902.5	902.5	902.5	902.5	902.5	901.6	902.5
5°	901.6	901.6	901.6	901.6	901.6	901.6	901.6	901.6
7.5°	901.6	900.7	900.7	900.7	900.7	900.7	900.7	900.7
10°	899.9	899.9	899.9	899.9	899.1	899.1	899.1	899.1
12.5°	898.2	898.2	898.2	898.2	897.3	897.3	897.3	897.3
15°	896.4	896.4	896.4	896.4	895.5	895.5	895.5	895.5
17.5°	897.3	896.4	895.5	895.5	894.7	893.8	893.8	893.8
20°	902.5	901.6	899.9	898.2	897.3	896.4	896.4	896.4
22.5°	895.5	894.7	892.9	892.1	892.1	891.3	890.4	890.4
25°	887.7	886.0	886.0	885.1	885.1	883.5	883.5	882.6
27.5°	879.1	878.2	877.3	876.4	876.4	875.6	874.8	873.9
30°	871.3	869.5	867.8	867.0	866.1	865.2	865.2	865.2
32.5°	863.5	861.7	860.8	858.3	856.5	855.7	854.8	854.8
35°	860.8	858.3	856.5	853.9	851.4	849.6	848.7	847.0
37.5°	871.3	867.8	865.2	860.8	854.8	852.2	849.6	848.7
40°	893.8	890.4	885.1	878.2	871.3	866.1	861.7	860.0
42.5°	901.6	897.3	890.4	883.5	874.8	867.0	863.5	861.7
45°	904.2	899.9	890.4	881.7	873.9	867.0	861.7	860.0
47.5°	901.6	895.5	886.9	879.9	868.6	860.0	856.5	853.9
50°	907.7	902.5	891.3	875.6	866.1	860.8	854.8	853.9
52.5°	919.8	910.3	899.9	888.6	870.4	860.0	856.5	852.2
55°	956.3	943.2	925.0	906.8	895.5	879.1	868.6	868.6
57.5°	984.0	973.5	950.1	925.9	905.1	892.9	877.3	878.2
60°	976.2	962.3	951.0	926.7	897.3	880.8	874.8	863.5
61°	975.3	956.3	940.6	921.6	896.4	870.4	868.6	853.9
62.5°	977.0	959.7	930.2	910.3	891.3	857.4	856.5	842.7
65°	975.3	958.8	944.1	906.8	880.8	867.0	837.4	848.7
67.5°	948.4	933.7	906.8	886.0	846.1	828.8	812.3	812.3
70°	906.0	884.2	858.3	832.3	805.4	775.9	761.2	752.5
72.5°	834.9	816.7	795.8	768.1	735.2	708.3	694.4	688.4
75°	745.6	725.6	707.4	686.6	651.9	629.4	614.7	610.3
77.5°	651.9	634.6	602.5	582.6	559.2	533.2	520.2	514.9
80°	532.3	522.7	500.2	468.1	456.8	424.8	416.1	408.3
82.5°	399.7	389.3	368.4	345.9	332.1	313.8	298.2	296.5
85°	251.4	244.5	231.4	215.0	197.7	187.3	173.4	176.8
87.5°	93.6	89.3	81.5	71.1	63.3	56.3	49.4	52.1
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

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
110°	84.0	83.0	84.0	81.0	78.0	76.0	74.0	75.0
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)