

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: P198429

Luminaire Tested: **TT-C4-LED-E1-CQ-LWR-LW-UPL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P198429
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-C4-LED-E1-CQ-LWR-LW-UPL
Description: TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
CONCENTRATED DISTRIBUTION WITH LumaWatt WIRELESS SENSOR
Light Source: (160) 4000K CCT, 70 CRI LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7719.5 lumens
Efficiency: N/A
Efficacy: 102.4 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): 75.4
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

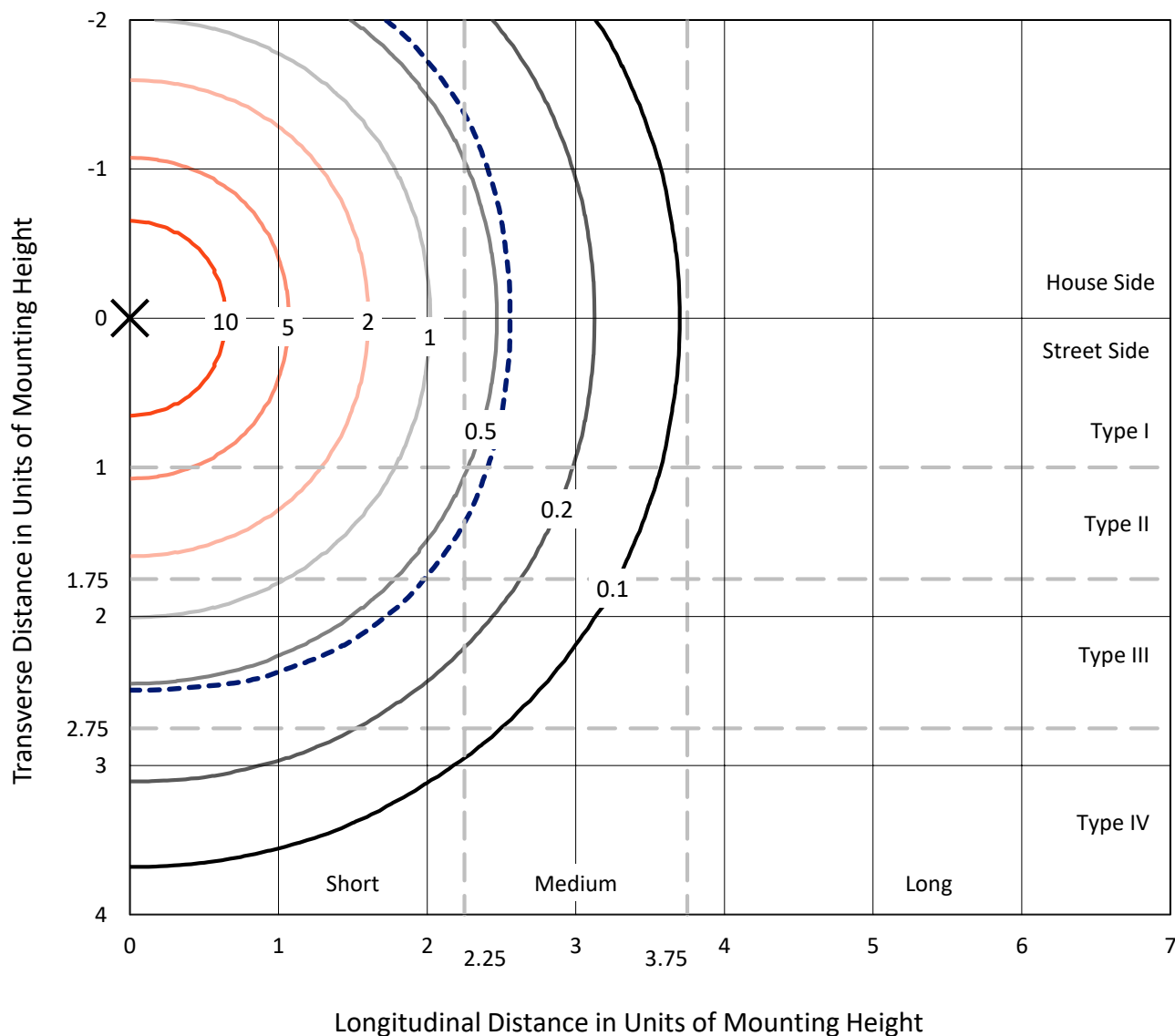


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 --- 1/2 Max cd

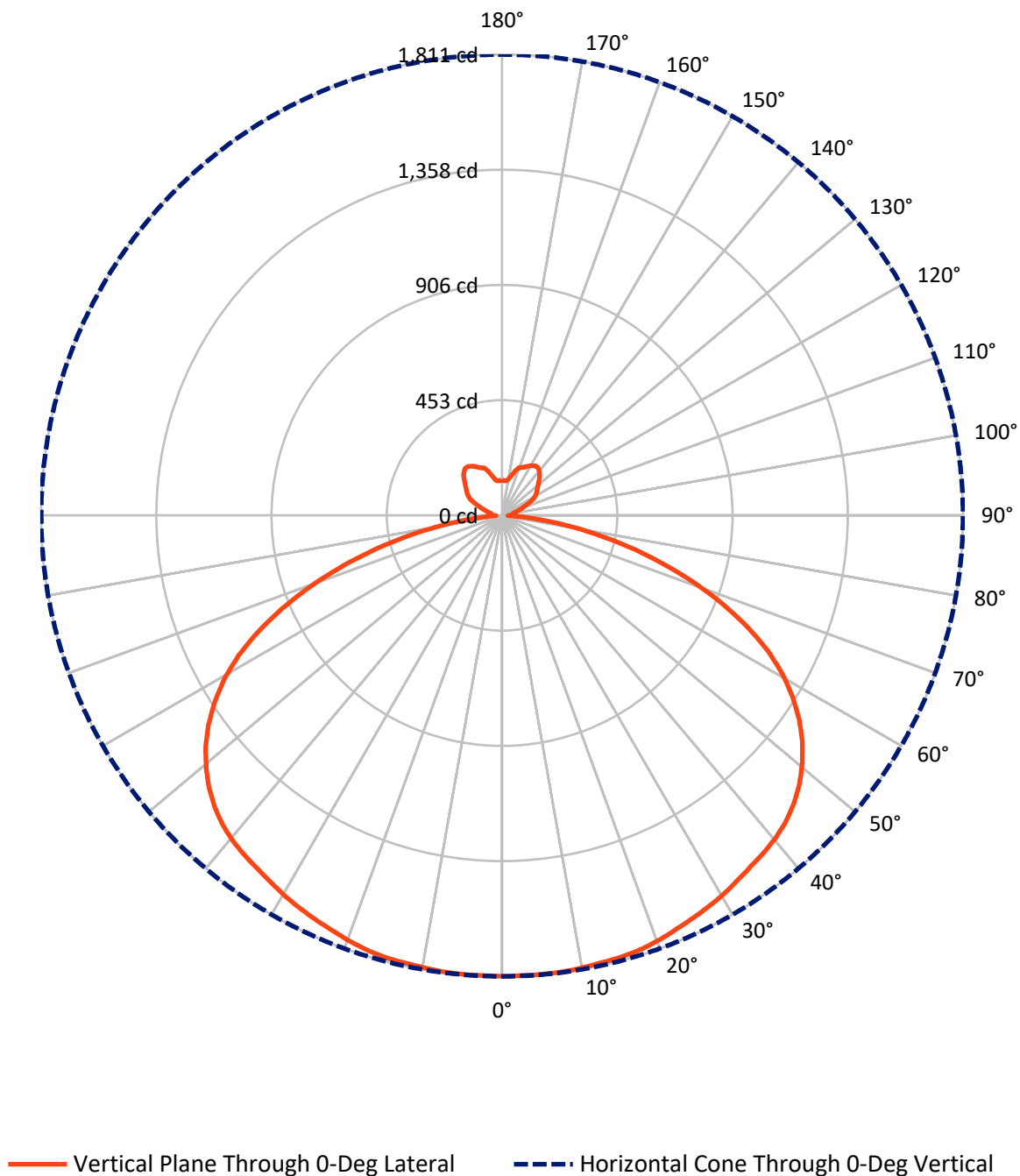


Based on 10 foot mounting height. Maximum calculated value = 18.1 fc
 Type V - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



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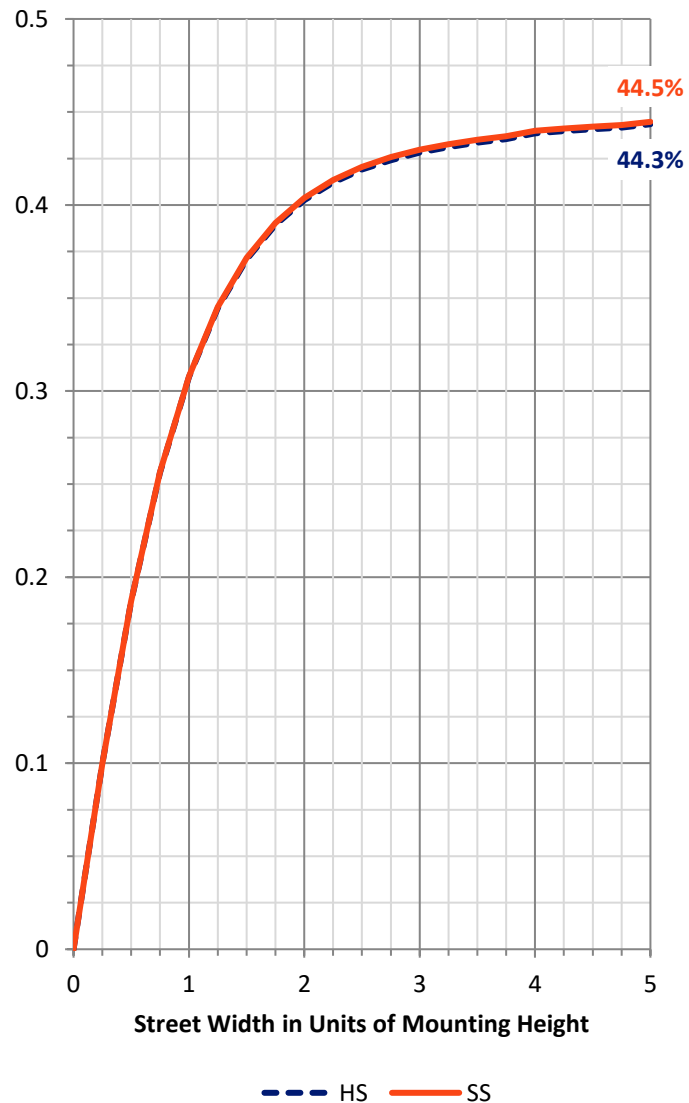
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3447.8	412.0	3859.7
	% Fixture	44.7	5.3	50.0
Street Side	Lumens	3447.8	412.0	3859.7
	% Fixture	44.7	5.3	50.0
Total	Lumens	6895.5	824.0	7719.5
	% Fixture	89.3	10.7	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.6	2.2
10°-20°	508.2	6.6
20°-30°	809.4	10.5
30°-40°	1061.2	13.7
40°-50°	1251.5	16.2
50°-60°	1296.2	16.8
60°-70°	1084.0	14.0
70°-80°	590.8	7.7
80°-90°	121.7	1.6
90°-100°	38.3	0.5
100°-110°	59.4	0.8
110°-120°	119.3	1.5
120°-130°	148.7	1.9
130°-140°	153.2	2.0
140°-150°	136.0	1.8
150°-160°	103.7	1.3
160°-170°	51.8	0.7
170°-180°	13.6	0.2
0°-90°	6895.5	89.3
0°-180°	7719.5	100.0

Coefficient of Utilization



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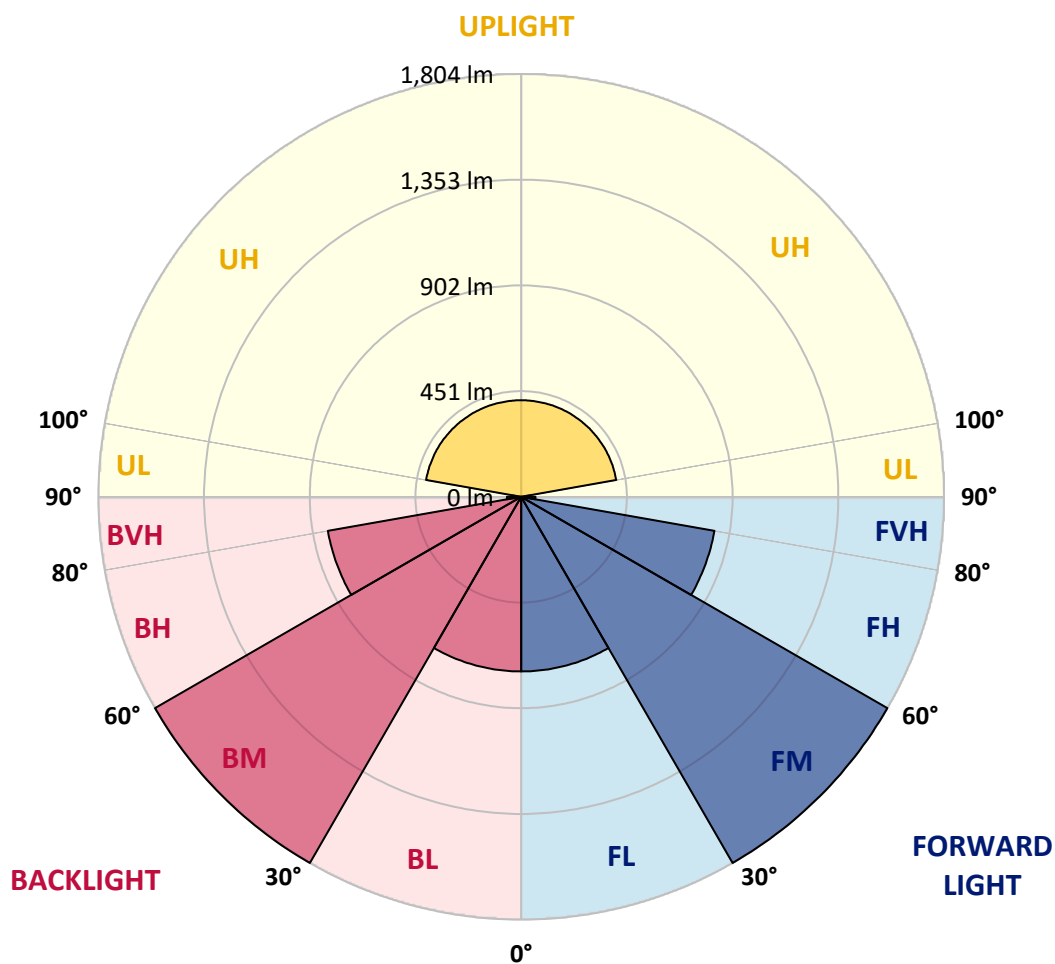
CATALOG NUMBER: TT-C4-LED-E1-CQ-LWR-LW-UPL

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	745.1	9.7			
FM	(30°-60°)	1804.4	23.4			
FH	(60°-80°)	837.4	10.8			G1/1800
FVH	(80°-90°)	60.8	0.8			G1/100
BL	(0°-30°)	745.1	9.7	B2/1000		
BM	(30°-60°)	1804.4	23.4	B2/2500		
BH	(60°-80°)	837.4	10.8	B2/1000		G1/1800
BVH	(80°-90°)	60.8	0.8			G1/100
UL	(90°-100°)	38.3	0.5		U2/50	
UH	(100°-180°)	412.0	5.3		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°	1811.0	1811.0	1811.0	1811.0	1811.0	1811.0	1811.0	1811.0	1811.0	1811.0	1811.0
2.5°	1809.6	1811.0	1811.0	1811.0	1811.0	1811.0	1811.0	1811.0	1809.6	1811.0	1811.0
5°	1809.6	1809.6	1809.6	1809.6	1811.0	1809.6	1809.6	1809.6	1809.6	1809.6	1809.6
7.5°	1808.1	1806.7	1806.7	1806.7	1806.7	1806.7	1808.1	1808.1	1808.1	1808.1	1808.1
10°	1803.8	1803.8	1803.8	1803.8	1803.8	1803.8	1803.8	1803.8	1803.8	1803.8	1803.8
12.5°	1799.4	1799.4	1799.4	1799.4	1800.9	1800.9	1800.9	1800.9	1800.9	1800.9	1799.4
15°	1796.5	1796.5	1796.5	1796.5	1796.5	1796.5	1796.5	1796.5	1796.5	1796.5	1796.5
17.5°	1789.3	1789.3	1789.3	1789.3	1790.7	1790.7	1790.7	1790.7	1790.7	1790.7	1790.7
20°	1777.7	1777.7	1777.7	1777.7	1777.7	1779.1	1780.6	1780.6	1780.6	1780.6	1780.6
22.5°	1763.2	1763.2	1764.6	1764.6	1766.1	1766.1	1767.5	1767.5	1767.5	1767.5	1767.5
25°	1750.1	1750.1	1750.1	1751.6	1751.6	1751.6	1753.0	1754.5	1754.5	1754.5	1753.0
27.5°	1737.1	1737.1	1737.1	1738.5	1738.5	1738.5	1740.0	1740.0	1741.4	1740.0	1740.0
30°	1722.6	1721.1	1721.1	1722.6	1724.0	1724.0	1725.5	1725.5	1725.5	1725.5	1724.0
32.5°	1705.2	1705.2	1706.6	1708.1	1708.1	1709.5	1711.0	1711.0	1711.0	1712.4	1709.5
35°	1689.2	1690.7	1690.7	1692.1	1695.0	1696.5	1697.9	1699.4	1699.4	1699.4	1696.5
37.5°	1676.2	1677.6	1679.1	1682.0	1684.9	1687.8	1690.7	1693.6	1692.1	1692.1	1687.8
40°	1660.2	1661.7	1664.6	1667.5	1673.3	1676.2	1680.5	1683.4	1684.9	1683.4	1679.1
42.5°	1638.5	1639.9	1642.8	1647.2	1654.4	1660.2	1664.6	1668.9	1670.4	1668.9	1664.6
45°	1609.5	1610.9	1613.8	1619.6	1628.3	1634.1	1641.4	1645.7	1648.6	1648.6	1644.3
47.5°	1573.2	1574.7	1579.0	1584.8	1593.5	1600.8	1609.5	1615.3	1618.2	1621.1	1616.7
50°	1528.3	1529.7	1535.5	1542.8	1550.0	1560.2	1570.3	1579.0	1583.4	1584.8	1583.4
52.5°	1477.5	1479.0	1484.8	1492.0	1502.2	1513.8	1525.4	1535.5	1541.3	1544.2	1541.3
55°	1416.6	1419.5	1423.9	1434.0	1445.6	1455.8	1470.3	1481.9	1489.1	1490.6	1489.1
57.5°	1345.6	1349.9	1354.3	1365.9	1377.5	1392.0	1403.6	1415.2	1423.9	1425.3	1425.3
60°	1265.8	1268.7	1273.1	1284.7	1297.7	1307.9	1323.8	1335.4	1342.7	1342.7	1344.1
62.5°	1171.6	1174.5	1181.7	1190.4	1204.9	1215.1	1228.1	1239.7	1247.0	1249.9	1248.4
65°	1061.4	1064.3	1068.6	1080.2	1091.8	1103.4	1116.5	1126.6	1133.9	1135.3	1133.9
67.5°	939.6	942.5	945.4	959.9	971.5	975.8	991.8	1000.5	1004.8	1006.3	1006.3
70°	810.5	812.0	816.3	823.6	836.6	841.0	851.1	858.4	861.3	867.1	862.7
72.5°	675.7	678.6	688.7	690.2	700.3	706.1	709.0	709.0	716.3	716.3	717.7
75°	542.3	543.7	548.1	549.5	556.8	556.8	555.3	558.2	564.0	564.0	565.5
77.5°	410.3	410.3	417.6	411.8	414.7	408.9	411.8	408.9	413.2	411.8	413.2
80°	287.1	287.1	291.4	285.6	287.1	281.3	282.7	281.3	281.3	282.7	282.7
82.5°	176.9	178.3	181.2	176.9	176.9	172.5	174.0	175.4	175.4	174.0	172.5
85°	87.0	87.0	89.9	88.4	87.0	84.1	85.5	87.0	87.0	85.5	85.5
87.5°	23.2	23.2	24.6	24.6	23.2	21.7	23.2	24.6	24.6	24.6	23.2
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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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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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1811.0	1811.0	1811.0	1811.0	1811.0	1811.0	1811.0	1811.0
2.5°	1809.6	1809.6	1811.0	1809.6	1811.0	1809.6	1811.0	1811.0
5°	1809.6	1809.6	1809.6	1809.6	1809.6	1809.6	1809.6	1809.6
7.5°	1806.7	1808.1	1806.7	1806.7	1806.7	1808.1	1806.7	1808.1
10°	1803.8	1803.8	1803.8	1803.8	1803.8	1803.8	1803.8	1803.8
12.5°	1799.4	1799.4	1799.4	1799.4	1799.4	1799.4	1799.4	1798.0
15°	1796.5	1795.1	1795.1	1795.1	1793.6	1793.6	1793.6	1793.6
17.5°	1790.7	1789.3	1787.8	1787.8	1787.8	1787.8	1786.4	1786.4
20°	1780.6	1779.1	1777.7	1777.7	1776.2	1776.2	1774.8	1774.8
22.5°	1766.1	1766.1	1764.6	1763.2	1763.2	1761.7	1761.7	1760.3
25°	1753.0	1751.6	1750.1	1748.7	1747.2	1747.2	1745.8	1744.3
27.5°	1738.5	1735.6	1734.2	1732.7	1731.3	1729.8	1728.4	1726.9
30°	1722.6	1719.7	1716.8	1715.3	1712.4	1709.5	1708.1	1706.6
32.5°	1706.6	1703.7	1699.4	1695.0	1692.1	1689.2	1686.3	1684.9
35°	1693.6	1687.8	1683.4	1677.6	1673.3	1668.9	1667.5	1666.0
37.5°	1683.4	1677.6	1670.4	1664.6	1660.2	1654.4	1651.5	1648.6
40°	1673.3	1666.0	1657.3	1650.1	1644.3	1637.0	1634.1	1631.2
42.5°	1658.8	1650.1	1641.4	1632.7	1624.0	1616.7	1612.4	1609.5
45°	1638.5	1629.8	1619.6	1608.0	1599.3	1590.6	1586.3	1583.4
47.5°	1610.9	1602.2	1590.6	1580.5	1570.3	1561.6	1555.8	1552.9
50°	1577.6	1568.9	1557.3	1545.7	1535.5	1525.4	1521.0	1516.7
52.5°	1535.5	1528.3	1515.2	1506.5	1494.9	1484.8	1480.4	1477.5
55°	1483.3	1476.1	1463.0	1454.3	1442.7	1434.0	1428.2	1423.9
57.5°	1419.5	1413.7	1399.2	1390.5	1378.9	1370.2	1365.9	1363.0
60°	1341.2	1335.4	1320.9	1312.2	1302.1	1291.9	1289.0	1286.1
62.5°	1244.1	1241.2	1229.6	1219.4	1209.3	1199.1	1196.2	1194.8
65°	1131.0	1128.1	1117.9	1109.2	1100.5	1091.8	1088.9	1086.0
67.5°	1001.9	1000.5	991.8	984.5	978.7	970.0	968.6	965.7
70°	864.2	861.3	854.0	848.2	843.9	836.6	835.2	832.3
72.5°	720.6	719.2	714.8	707.6	707.6	697.4	696.0	694.5
75°	562.6	569.8	564.0	561.1	561.1	555.3	555.3	553.9
77.5°	411.8	419.0	423.4	417.6	423.4	417.6	417.6	416.1
80°	281.3	287.1	291.4	287.1	294.3	290.0	290.0	295.8
82.5°	171.1	176.9	179.8	178.3	182.7	181.2	179.8	184.1
85°	84.1	87.0	88.4	88.4	89.9	87.0	89.9	91.3
87.5°	21.7	23.2	24.6	23.2	24.6	24.6	24.6	26.1
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
110°	84.0	83.0	84.0	81.0	78.0	76.0	74.0	75.0

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CATALOG NUMBER: TT-C4-LED-E1-CQ-LWR-LW-UPL

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)