

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: INVUE

Report Number: P141245

Luminaire Tested: **ECM-F03-LED-E1-SL4**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P141245
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33692)
Test Lab: INNOVATION CENTER-P3
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: ECM-F03-LED-E1-SL4
Description: EPIC CLASSICAL MEDIUM DECORATIVE LED LUMINAIRE
(3) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (21) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6992.6 lumens
Efficiency: N/A
Efficacy: 89.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G2

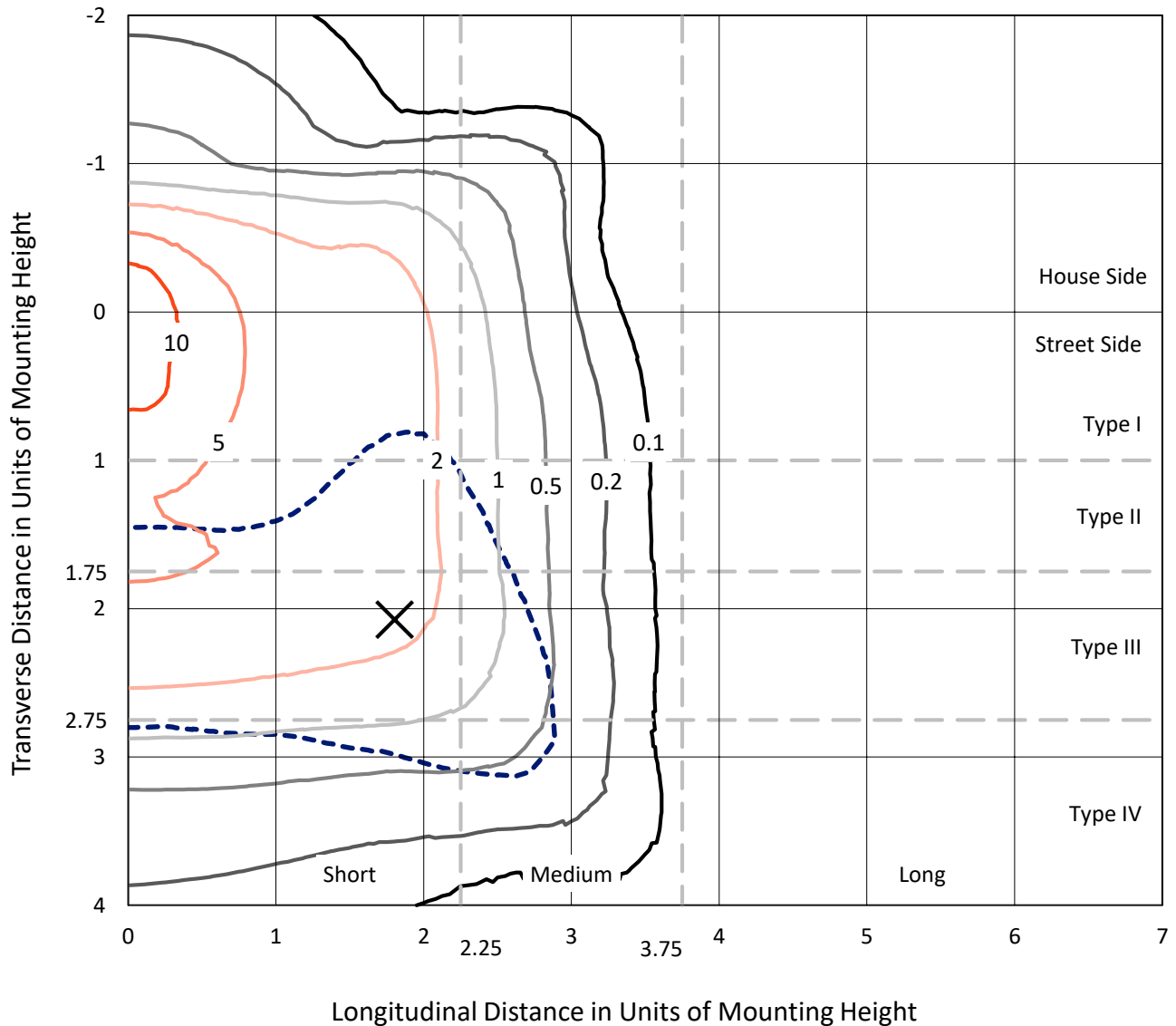
Input Watts (W): 78.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

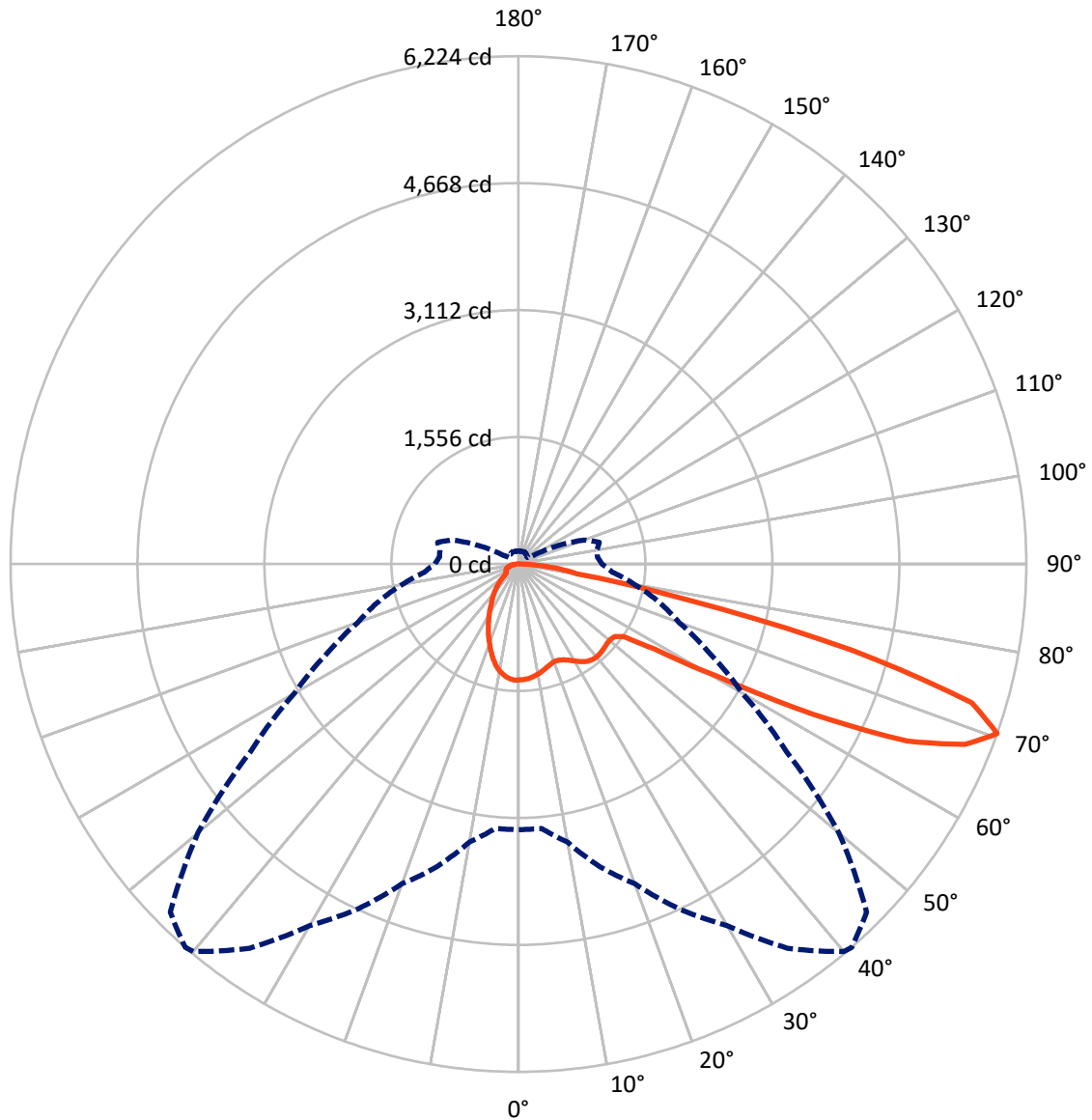
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 14.2 fc
 Type IV - Short - Semi-Cutoff

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CATALOG NUMBER: ECM-F03-LED-E1-SL4

Luminous Intensity Polar Plot



— Vertical Plane Through 41-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1500.3	0.0	1500.3
	% Fixture	21.5	0.0	21.5
Street Side	Lumens	5492.3	0.0	5492.3
	% Fixture	78.5	0.0	78.5
Total	Lumens	6992.6	0.0	6992.6
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	132.2	1.9
10°-20°	354.4	5.1
20°-30°	512.3	7.3
30°-40°	652.1	9.3
40°-50°	768.4	11.0
50°-60°	1175.7	16.8
60°-70°	2185.2	31.3
70°-80°	1054.7	15.1
80°-90°	157.5	2.3
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	6992.6	100.0
0°-180°	6992.6	100.0



REPORT NUMBER: P141245

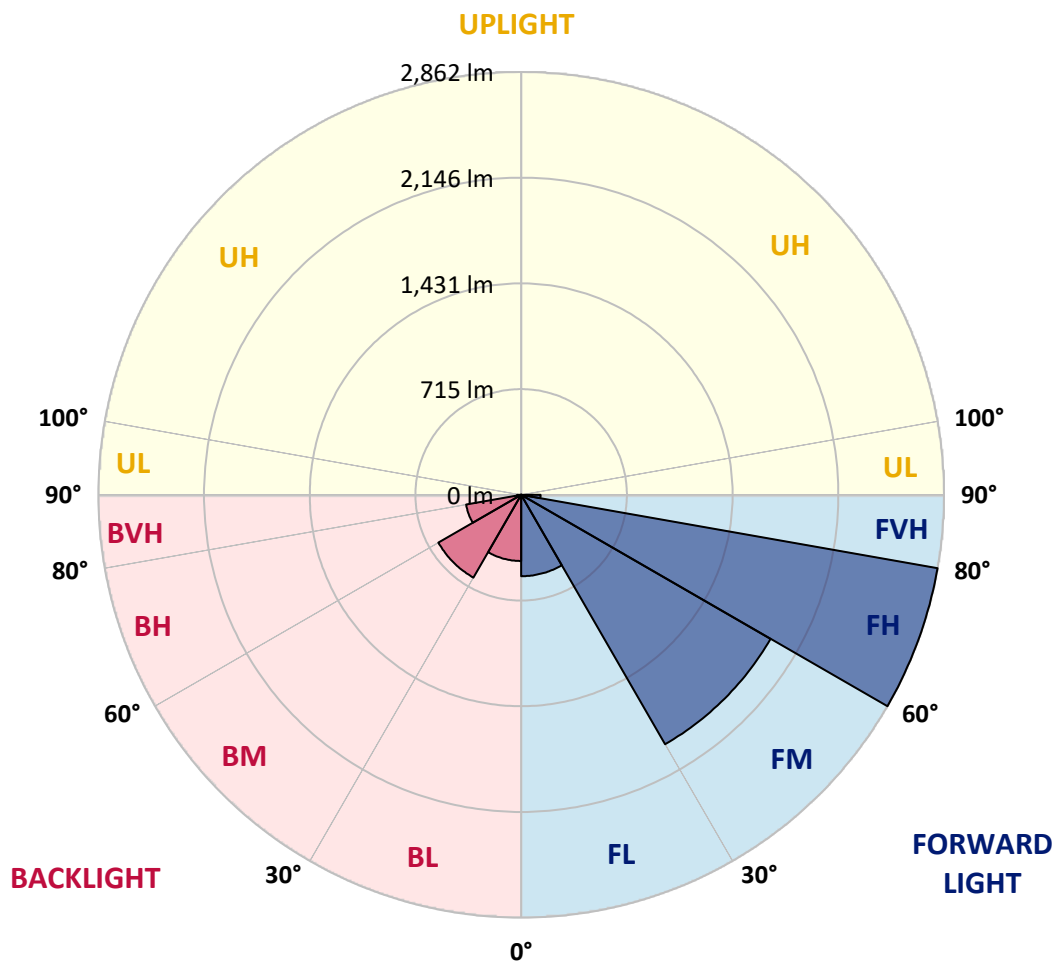
CATALOG NUMBER: ECM-F03-LED-E1-SL4

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	550.7	7.9			
FM (30°-60°)	1949.0	27.9			
FH (60°-80°)	2861.6	40.9			G2/5000
FVH (80°-90°)	130.9	1.9			G2/225
BL (0°-30°)	448.1	6.4	B1/500		
BM (30°-60°)	647.3	9.3	B1/1000		
BH (60°-80°)	378.3	5.4	B1/500		G1/500
BVH (80°-90°)	26.6	0.4			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type IV Short





REPORT NUMBER: P141245

CATALOG NUMBER: ECM-F03-LED-E1-SL4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	41°	45°
0°	1420.7	1420.7	1420.7	1420.7	1420.7	1420.7	1420.7	1420.7	1420.7	1420.7	1420.7
2.5°	1420.7	1422.4	1421.6	1419.9	1418.3	1419.1	1418.3	1417.4	1417.4	1416.6	1415.8
5°	1414.1	1417.4	1414.9	1413.3	1410.8	1410.8	1410.0	1408.3	1406.7	1405.9	1404.2
7.5°	1400.1	1403.4	1401.7	1400.1	1397.6	1396.0	1392.7	1391.0	1389.4	1388.5	1386.1
10°	1381.1	1382.8	1381.1	1377.8	1376.2	1375.3	1373.7	1370.4	1367.1	1365.4	1362.9
12.5°	1356.3	1357.2	1355.5	1353.9	1351.4	1351.4	1348.9	1346.4	1341.5	1339.8	1334.0
15°	1334.9	1332.4	1330.7	1329.9	1329.1	1325.0	1325.8	1321.7	1313.4	1310.9	1304.3
17.5°	1329.1	1326.6	1325.8	1323.3	1321.7	1316.7	1311.8	1303.5	1289.5	1287.0	1277.1
20°	1345.6	1345.6	1343.1	1341.5	1339.0	1329.9	1319.2	1303.5	1277.9	1272.1	1259.8
22.5°	1385.2	1381.1	1379.5	1379.5	1378.6	1365.4	1345.6	1320.8	1287.0	1279.6	1258.1
25°	1447.1	1439.7	1442.2	1441.4	1439.7	1420.7	1391.8	1356.3	1310.1	1300.2	1272.1
27.5°	1520.6	1522.3	1521.4	1518.1	1513.2	1492.5	1451.3	1403.4	1345.6	1335.7	1299.4
30°	1597.4	1599.0	1604.0	1601.5	1598.2	1566.8	1515.7	1463.7	1393.5	1380.3	1335.7
32.5°	1686.5	1692.3	1696.5	1697.3	1684.1	1641.1	1580.9	1514.8	1440.5	1427.3	1372.0
35°	1789.7	1786.4	1793.9	1790.6	1767.4	1708.8	1634.5	1556.1	1480.2	1462.8	1403.4
37.5°	1893.8	1897.9	1890.5	1876.4	1840.1	1763.3	1671.7	1583.4	1499.2	1482.6	1420.7
40°	1994.5	1992.0	1974.7	1950.7	1896.2	1798.0	1692.3	1595.7	1505.8	1488.4	1424.9
42.5°	2069.6	2063.0	2036.6	1997.8	1927.6	1814.5	1698.1	1595.7	1501.6	1483.5	1419.1
45°	2102.6	2096.0	2070.4	2020.9	1937.5	1811.2	1688.2	1581.7	1487.6	1471.9	1407.5
47.5°	2102.6	2100.1	2072.1	2024.2	1935.0	1802.1	1673.3	1564.4	1473.6	1457.9	1397.6
50°	2086.1	2084.5	2059.7	2012.6	1926.8	1797.2	1669.2	1561.1	1472.7	1457.1	1401.7
52.5°	2141.4	2130.7	2105.1	2050.6	1957.3	1817.8	1689.8	1577.6	1492.5	1476.9	1419.9
55°	2814.2	2805.1	2675.5	2447.7	2209.1	1991.2	1804.6	1675.8	1590.0	1566.0	1524.7
57.5°	3902.3	3889.0	3756.1	3548.9	3138.6	2672.2	2306.5	2091.9	1971.4	1954.0	1929.3
60°	4343.9	4339.0	4282.8	4198.6	4043.4	3802.4	3462.3	3105.6	2828.2	2783.7	2787.0
62.5°	4597.3	4585.0	4557.7	4537.1	4484.3	4386.0	4322.4	4222.6	4088.0	4057.5	3864.3
65°	4739.3	4737.7	4752.5	4769.9	4766.6	4796.3	4828.5	5019.2	5242.9	5233.0	5029.1
67.5°	4528.0	4542.0	4619.6	4738.5	4863.2	4995.3	5241.3	5623.5	5900.0	5900.0	5720.9
70°	3255.0	3252.6	3458.9	3835.4	4170.6	4664.2	5117.4	5747.3	6199.7	6223.6	6033.8
72.5°	1950.7	1996.1	2123.3	2294.1	2578.9	3176.6	4019.5	5151.3	5782.8	5808.4	5581.4
75°	1370.4	1336.5	1331.6	1341.5	1390.2	1537.1	2001.1	3161.8	4192.0	4231.6	4012.1
77.5°	876.7	869.3	872.6	883.3	885.8	899.8	922.1	1083.9	1943.3	2133.2	2123.3
80°	756.2	753.7	754.5	742.1	718.2	709.1	737.2	714.9	694.3	723.2	683.5
82.5°	506.9	516.0	530.8	550.6	598.5	615.0	605.9	601.8	536.6	521.7	463.1
85°	375.6	370.7	376.4	376.4	364.1	351.7	360.8	351.7	311.2	291.4	257.6
87.5°	203.1	203.9	220.4	227.0	226.2	193.2	159.3	137.9	124.7	115.6	97.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P141245

CATALOG NUMBER: ECM-F03-LED-E1-SL4

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	1420.7	1420.7	1420.7	1420.7	1420.7	1420.7	1420.7	1420.7	1420.7	1420.7	1420.7
2.5°	1416.6	1414.1	1414.9	1414.9	1414.1	1415.8	1413.3	1412.5	1413.3	1413.3	1413.3
5°	1402.6	1399.3	1399.3	1398.4	1396.8	1396.8	1393.5	1392.7	1391.0	1393.5	1391.8
7.5°	1382.8	1377.8	1373.7	1370.4	1368.7	1366.2	1362.1	1360.5	1358.8	1358.0	1356.3
10°	1358.8	1353.0	1344.8	1338.2	1334.9	1328.3	1323.3	1316.7	1316.7	1313.4	1310.1
12.5°	1329.9	1321.7	1313.4	1304.3	1298.6	1289.5	1281.2	1273.8	1268.0	1260.6	1255.6
15°	1301.0	1288.6	1279.6	1270.5	1259.8	1247.4	1237.5	1225.9	1215.2	1203.6	1200.3
17.5°	1269.7	1259.8	1251.5	1240.8	1229.2	1214.3	1201.1	1182.2	1168.9	1154.9	1144.2
20°	1249.0	1237.5	1228.4	1218.5	1206.1	1188.8	1171.4	1150.0	1130.1	1109.5	1093.8
22.5°	1238.3	1219.3	1211.0	1202.0	1189.6	1170.6	1150.8	1124.4	1099.6	1072.4	1047.6
25°	1242.4	1216.8	1200.3	1190.4	1179.7	1160.7	1135.1	1105.4	1077.3	1042.6	1014.6
27.5°	1260.6	1225.9	1200.3	1183.8	1172.2	1152.4	1126.0	1092.2	1058.3	1022.0	988.2
30°	1284.5	1240.8	1207.7	1183.8	1166.5	1145.0	1116.1	1079.8	1042.6	1002.2	963.4
32.5°	1311.8	1258.1	1218.5	1185.5	1157.4	1130.1	1100.4	1062.5	1023.7	980.7	942.7
35°	1333.2	1271.3	1225.9	1182.2	1145.0	1111.2	1076.5	1041.0	1002.2	961.7	921.3
37.5°	1345.6	1279.6	1225.9	1170.6	1125.2	1089.7	1053.4	1018.7	981.5	941.9	906.4
40°	1350.6	1282.9	1221.0	1157.4	1104.6	1064.1	1030.3	994.8	961.7	927.1	895.7
42.5°	1348.1	1280.4	1214.3	1145.0	1088.0	1044.3	1007.1	974.1	946.9	918.0	891.6
45°	1338.2	1272.1	1207.7	1139.2	1082.3	1037.7	999.7	968.3	942.7	916.3	895.7
47.5°	1329.9	1268.8	1211.9	1153.3	1098.8	1053.4	1012.1	977.4	956.0	935.3	922.1
50°	1336.5	1277.9	1221.0	1165.6	1112.8	1066.6	1024.5	992.3	979.9	976.6	972.5
52.5°	1354.7	1296.9	1249.0	1210.2	1186.3	1168.9	1126.0	1118.6	1107.9	1102.1	1088.0
55°	1472.7	1448.8	1491.7	1538.8	1547.0	1599.0	1619.7	1621.3	1603.2	1538.8	1388.5
57.5°	1953.2	2012.6	2030.8	2139.8	2169.5	2146.4	2115.0	2113.3	2057.2	1972.2	1753.4
60°	2811.7	2780.4	2741.6	2670.6	2603.7	2531.9	2432.8	2356.9	2285.1	2154.6	1924.3
62.5°	3709.9	3436.7	3237.7	3033.8	2868.7	2724.2	2580.6	2458.4	2342.0	2161.2	1914.4
65°	4489.2	3932.8	3529.1	3222.8	2966.9	2755.6	2564.9	2398.1	2251.2	2025.0	1774.9
67.5°	4996.1	4196.1	3592.7	3135.3	2773.8	2504.6	2224.0	1960.6	1816.2	1633.7	1506.6
70°	5125.7	4010.4	3168.4	2582.2	2095.2	1774.1	1443.0	1155.7	1022.8	971.6	975.8
72.5°	4623.8	3170.0	2246.3	1642.8	1286.2	1019.5	828.8	637.3	497.8	417.7	407.8
75°	3020.6	1764.1	1066.6	743.0	591.1	470.5	370.7	312.0	269.1	217.1	181.6
77.5°	1141.7	672.0	478.8	390.5	288.9	201.4	156.8	132.1	121.4	118.1	106.5
80°	585.3	466.4	333.5	219.6	153.5	123.0	103.2	87.5	80.9	77.6	79.3
82.5°	394.6	293.9	184.1	132.1	106.5	91.6	72.6	61.1	54.5	53.7	57.8
85°	219.6	146.9	107.3	89.2	78.4	68.5	55.3	45.4	42.1	44.6	52.0
87.5°	68.5	67.7	48.7	39.6	41.3	35.5	26.4	19.8	19.8	25.6	36.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P141245

CATALOG NUMBER: ECM-F03-LED-E1-SL4

CANDELA DISTRIBUTION (continued):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	1420.7	1420.7	1420.7	1420.7	1420.7	1420.7	1420.7	1420.7	1420.7	1420.7	1420.7
2.5°	1413.3	1414.9	1418.3	1415.8	1416.6	1417.4	1419.9	1423.2	1420.7	1419.1	1424.0
5°	1393.5	1393.5	1397.6	1396.0	1399.3	1402.6	1404.2	1410.0	1408.3	1406.7	1413.3
7.5°	1357.2	1358.0	1363.8	1362.1	1368.7	1369.5	1376.2	1381.1	1381.1	1384.4	1390.2
10°	1310.9	1310.9	1315.9	1316.7	1320.8	1324.1	1331.6	1340.7	1342.3	1348.1	1356.3
12.5°	1258.9	1257.3	1261.4	1261.4	1264.7	1268.8	1277.1	1287.8	1289.5	1298.6	1309.3
15°	1194.5	1192.1	1190.4	1192.1	1193.7	1194.5	1206.9	1217.6	1224.3	1234.2	1244.9
17.5°	1132.6	1123.5	1119.4	1119.4	1120.2	1120.2	1125.2	1137.6	1146.7	1162.3	1178.0
20°	1077.3	1061.6	1055.8	1042.6	1040.2	1034.4	1038.5	1052.5	1069.1	1081.4	1093.8
22.5°	1025.3	1008.8	992.3	976.6	964.2	956.8	964.2	973.3	979.1	989.0	992.3
25°	985.7	958.4	935.3	910.6	897.3	890.7	889.9	889.1	884.1	882.5	882.5
27.5°	954.3	922.1	887.4	860.2	842.0	829.7	815.6	805.7	793.3	776.8	768.6
30°	927.9	893.2	855.2	823.0	799.9	776.0	747.1	724.8	702.5	682.7	665.4
32.5°	903.9	868.5	831.3	797.5	757.8	716.6	680.2	653.8	615.0	588.6	566.3
35°	885.8	850.3	815.6	771.0	716.6	663.7	616.7	577.9	538.2	503.6	473.9
37.5°	872.6	842.9	805.7	745.4	676.9	613.4	563.8	517.6	470.5	423.5	386.3
40°	868.5	842.9	795.8	717.4	639.0	570.4	513.5	456.5	404.5	354.2	316.2
42.5°	870.9	843.7	780.1	692.6	607.6	533.3	468.9	402.9	340.9	287.3	249.3
45°	880.0	843.7	763.6	665.4	578.7	499.4	422.7	344.2	272.4	229.5	213.0
47.5°	907.3	849.5	750.4	645.6	553.1	462.3	370.7	281.5	220.4	202.3	202.3
50°	949.4	866.8	748.8	630.7	524.2	419.4	306.3	222.1	194.8	194.0	199.0
52.5°	1021.2	897.3	757.0	620.8	493.7	361.6	238.6	191.5	185.7	190.7	198.1
55°	1160.7	951.0	768.6	602.6	442.5	283.2	195.6	181.6	184.1	189.9	196.5
57.5°	1415.8	1059.1	780.9	563.8	358.3	214.6	177.5	178.3	182.4	188.2	194.0
60°	1591.6	1192.9	805.7	498.6	266.6	177.5	170.1	176.7	181.6	185.7	190.7
62.5°	1606.5	1241.6	823.9	425.1	198.1	161.8	163.5	173.4	180.0	181.6	184.1
65°	1517.3	1178.8	771.9	350.8	164.3	153.5	159.3	168.4	175.0	175.8	178.3
67.5°	1322.5	1047.6	658.8	266.6	150.2	147.8	154.4	160.2	165.1	169.2	172.5
70°	1024.5	855.2	530.0	207.2	139.5	138.7	144.5	151.1	156.0	160.2	165.1
72.5°	539.9	607.6	394.6	165.9	128.0	128.8	134.6	140.3	143.6	147.8	152.7
75°	167.6	257.6	243.5	132.9	113.9	117.2	120.5	125.5	131.3	133.7	136.2
77.5°	99.1	104.8	127.1	104.0	99.1	101.5	105.7	109.8	113.9	117.2	119.7
80°	80.1	81.7	82.6	82.6	82.6	85.9	89.2	94.9	98.2	99.9	100.7
82.5°	62.7	66.9	67.7	66.0	68.5	71.8	73.5	76.8	77.6	79.3	80.9
85°	52.0	51.2	52.8	53.7	50.4	50.4	48.7	48.7	52.0	57.8	58.6
87.5°	40.5	35.5	28.9	27.2	25.6	23.9	22.3	22.3	23.1	26.4	28.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P141245

CATALOG NUMBER: ECM-F03-LED-E1-SL4

CANDELA DISTRIBUTION (continued):

	160°	165°	170°	175°	180°
0°	1420.7	1420.7	1420.7	1420.7	1420.7
2.5°	1424.0	1423.2	1424.9	1427.3	1425.7
5°	1414.1	1414.1	1417.4	1419.9	1418.3
7.5°	1394.3	1395.1	1400.1	1403.4	1401.7
10°	1362.9	1364.6	1370.4	1375.3	1377.8
12.5°	1315.9	1321.7	1329.1	1334.0	1334.0
15°	1256.4	1265.5	1273.8	1281.2	1277.1
17.5°	1188.8	1199.5	1210.2	1214.3	1210.2
20°	1107.0	1107.9	1114.5	1118.6	1116.9
22.5°	995.6	992.3	995.6	997.2	999.7
25°	881.7	875.9	872.6	877.5	880.0
27.5°	765.3	757.0	759.5	753.7	747.1
30°	652.2	644.7	635.7	633.2	637.3
32.5°	552.3	533.3	525.9	511.8	517.6
35°	446.6	427.6	409.5	404.5	401.2
37.5°	359.9	336.8	314.5	307.1	305.4
40°	281.5	262.5	247.7	243.5	241.9
42.5°	228.7	220.4	217.9	217.9	218.8
45°	208.9	209.7	212.2	213.8	214.6
47.5°	204.7	208.0	211.3	214.6	215.5
50°	204.7	207.2	209.7	213.0	213.8
52.5°	203.1	205.6	206.4	208.0	209.7
55°	201.4	202.3	202.3	203.1	204.7
57.5°	197.3	198.1	196.5	197.3	200.6
60°	193.2	194.0	192.3	194.0	194.8
62.5°	187.4	187.4	186.6	187.4	188.2
65°	180.8	178.3	180.0	179.1	180.0
67.5°	172.5	169.2	168.4	168.4	169.2
70°	161.0	158.5	157.7	159.3	161.0
72.5°	146.9	148.6	151.1	153.5	157.7
75°	137.0	139.5	142.8	151.1	156.8
77.5°	123.0	122.2	125.5	134.6	142.8
80°	102.4	103.2	102.4	104.8	106.5
82.5°	78.4	77.6	75.1	75.1	73.5
85°	55.3	52.8	49.5	48.7	47.9
87.5°	28.1	29.7	27.2	24.8	24.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)