

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: P141230

Luminaire Tested: **ECM-E02-LED-E1-SL4**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P141230
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-E02-LED-E1-SL4
Description: EPIC CLASSICAL MEDIUM DECORATIVE LED LUMINAIRE
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (42) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5647 lumens
Efficiency: N/A
Efficacy: 108.4 lumens/watt
Luminous Opening: Rectangular (W 0.33' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G2

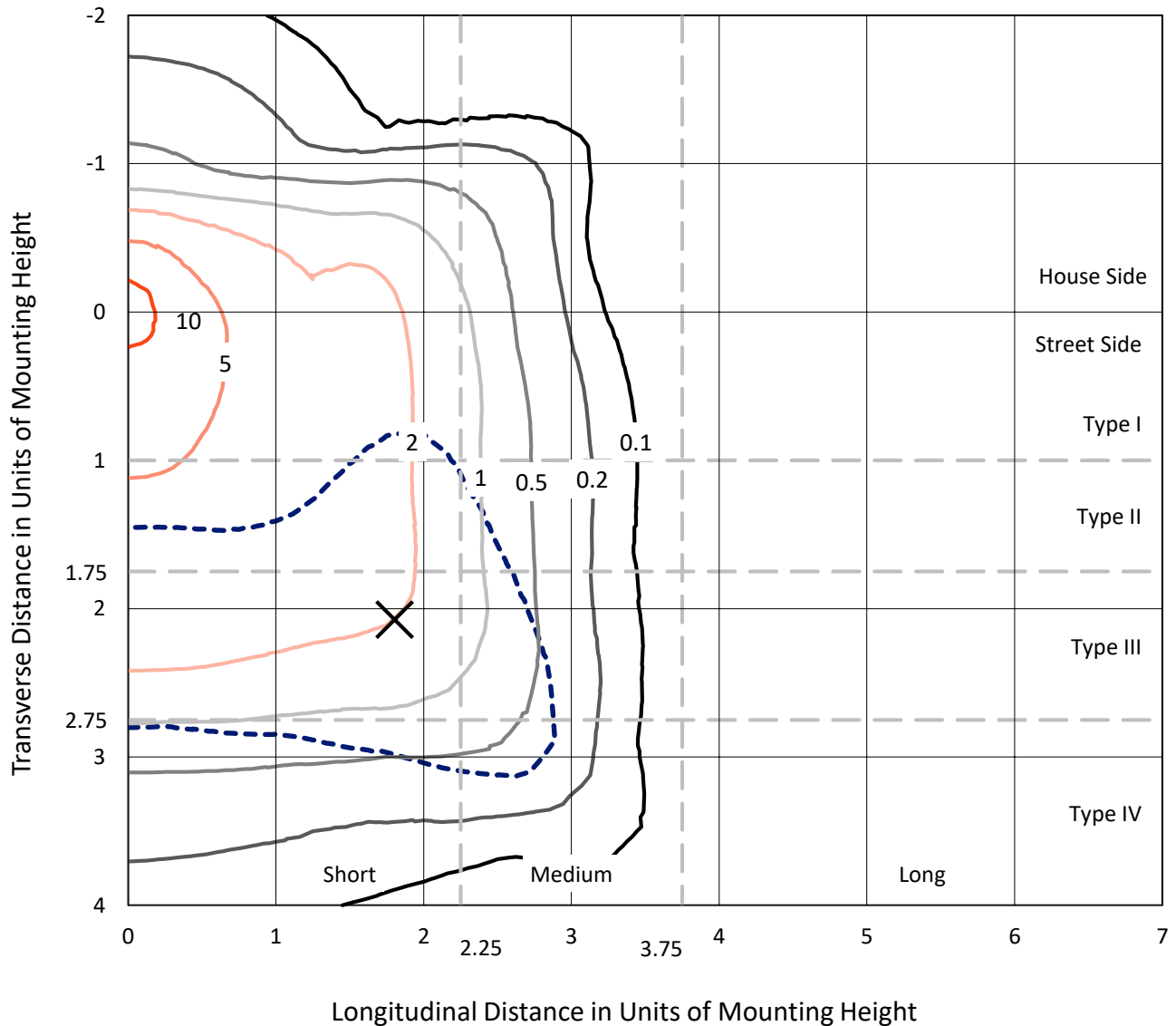
Input Watts (W): 52.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd
 - - - 1/2 Max cd

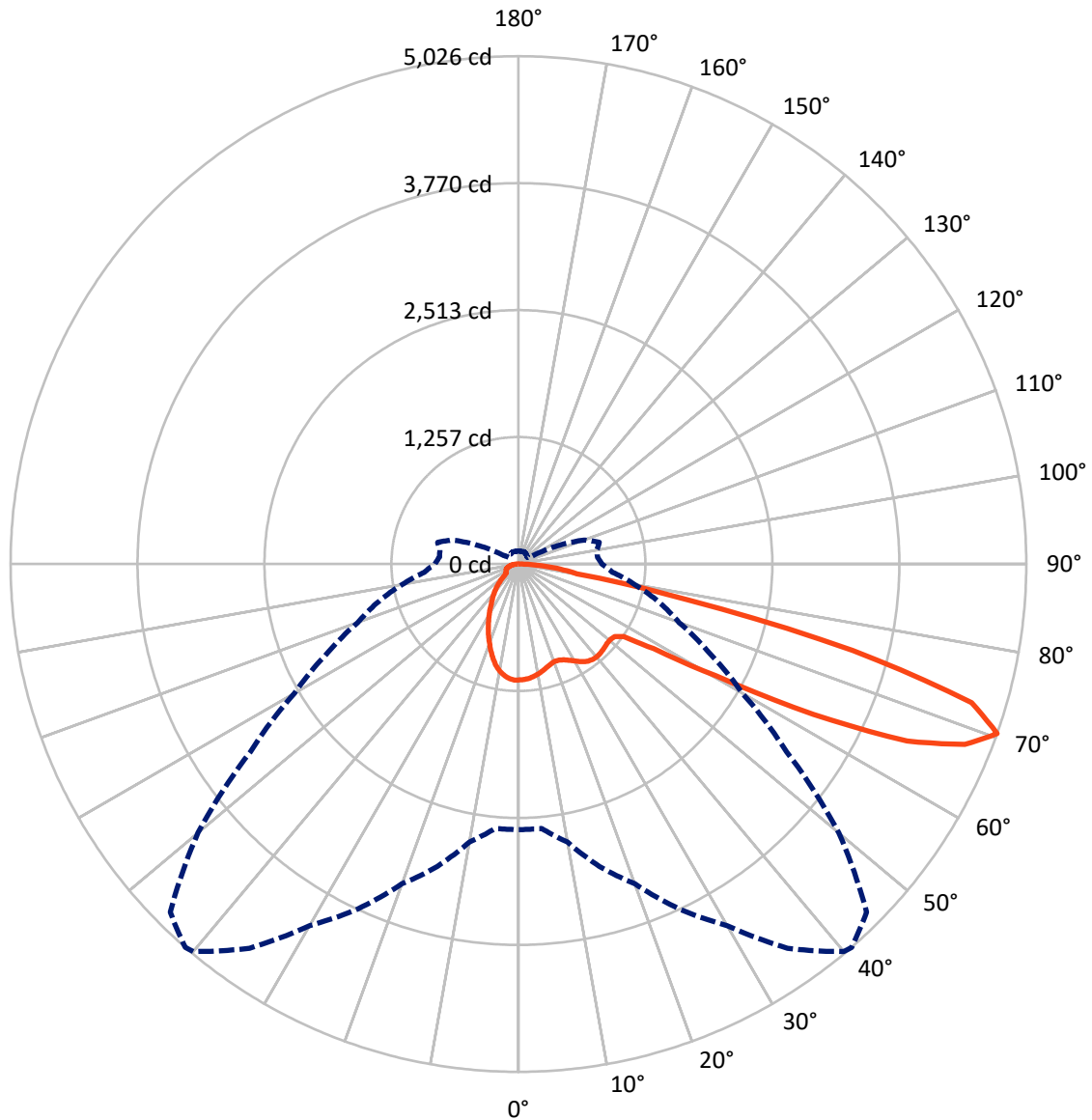


Based on 10 foot mounting height. Maximum calculated value = 11.5 fc
 Type IV - Short - Semi-Cutoff

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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	1211.6	0.0	1211.6
	% Fixture	21.5	0.0	21.5
Street Side	Lumens	4435.4	0.0	4435.4
	% Fixture	78.5	0.0	78.5
Total	Lumens	5647.0	0.0	5647.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	106.8	1.9
10°-20°	286.2	5.1
20°-30°	413.7	7.3
30°-40°	526.6	9.3
40°-50°	620.5	11.0
50°-60°	949.5	16.8
60°-70°	1764.7	31.3
70°-80°	851.7	15.1
80°-90°	127.2	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°	5647.0	100.0
0°-180°	5647.0	100.0



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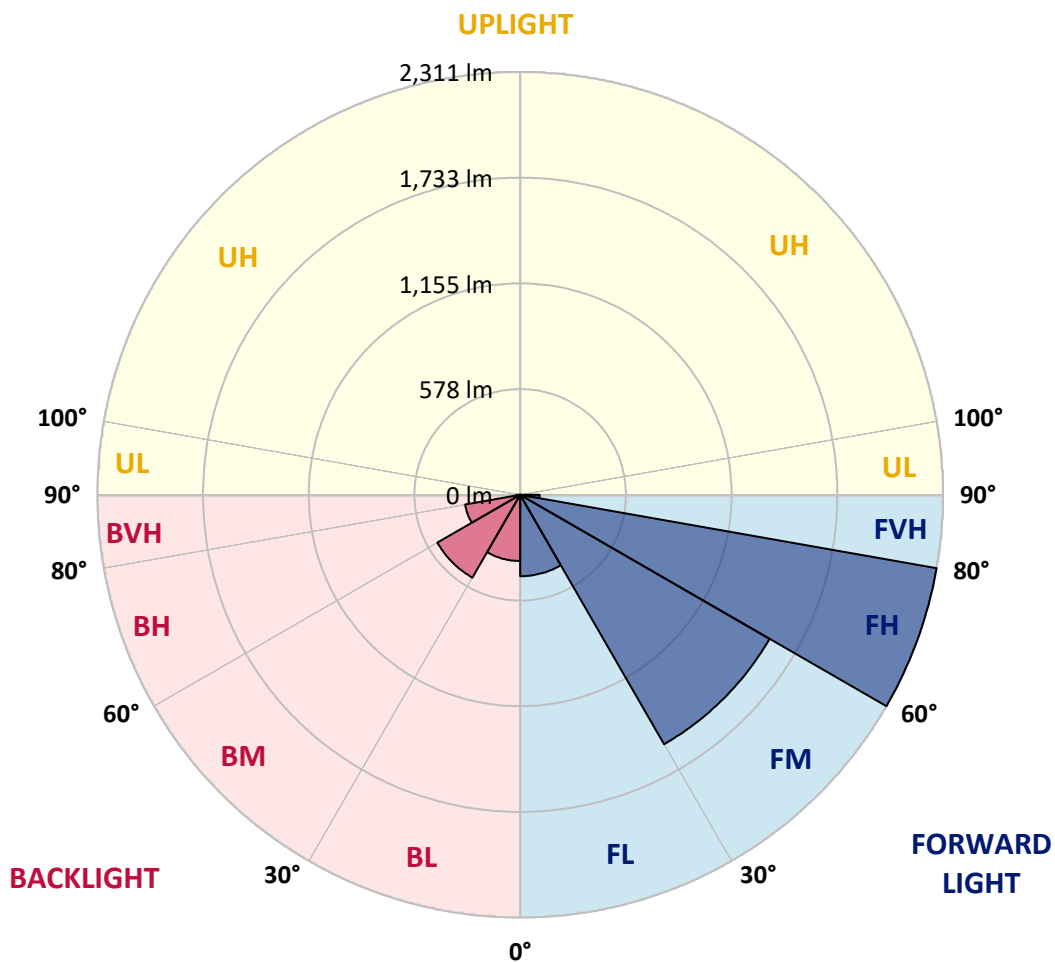
CATALOG NUMBER: ECM-E02-LED-E1-SL4

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	444.8	7.9			
FM	(30°-60°)	1573.9	27.9			
FH	(60°-80°)	2311.0	40.9			G2/5000
FVH	(80°-90°)	105.7	1.9			G2/225
BL	(0°-30°)	361.9	6.4	B1/500		
BM	(30°-60°)	522.7	9.3	B1/1000		
BH	(60°-80°)	305.5	5.4	B1/500		G1/500
BVH	(80°-90°)	21.5	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





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	41°	45°
0°	1147.3	1147.3	1147.3	1147.3	1147.3	1147.3	1147.3	1147.3	1147.3	1147.3	1147.3
2.5°	1147.3	1148.7	1148.0	1146.7	1145.3	1146.0	1145.3	1144.7	1144.7	1144.0	1143.3
5°	1142.0	1144.7	1142.7	1141.3	1139.3	1139.3	1138.7	1137.3	1136.0	1135.3	1134.0
7.5°	1130.7	1133.3	1132.0	1130.7	1128.7	1127.3	1124.7	1123.3	1122.0	1121.3	1119.3
10°	1115.3	1116.7	1115.3	1112.7	1111.3	1110.7	1109.3	1106.7	1104.0	1102.7	1100.7
12.5°	1095.3	1096.0	1094.7	1093.3	1091.3	1091.3	1089.3	1087.3	1083.3	1082.0	1077.3
15°	1078.0	1076.0	1074.7	1074.0	1073.3	1070.0	1070.7	1067.3	1060.7	1058.7	1053.3
17.5°	1073.3	1071.3	1070.7	1068.7	1067.3	1063.3	1059.3	1052.7	1041.3	1039.3	1031.3
20°	1086.7	1086.7	1084.7	1083.3	1081.3	1074.0	1065.3	1052.7	1032.0	1027.3	1017.3
22.5°	1118.7	1115.3	1114.0	1114.0	1113.3	1102.7	1086.7	1066.7	1039.3	1033.3	1016.0
25°	1168.7	1162.7	1164.7	1164.0	1162.7	1147.3	1124.0	1095.3	1058.0	1050.0	1027.3
27.5°	1228.0	1229.3	1228.7	1226.0	1222.0	1205.3	1172.0	1133.3	1086.7	1078.7	1049.3
30°	1290.0	1291.3	1295.3	1293.3	1290.7	1265.3	1224.0	1182.0	1125.3	1114.7	1078.7
32.5°	1362.0	1366.7	1370.0	1370.7	1360.0	1325.3	1276.7	1223.3	1163.3	1152.7	1108.0
35°	1445.3	1442.7	1448.7	1446.0	1427.3	1380.0	1320.0	1256.7	1195.3	1181.3	1133.3
37.5°	1529.3	1532.7	1526.7	1515.3	1486.0	1424.0	1350.0	1278.7	1210.7	1197.3	1147.3
40°	1610.7	1608.7	1594.7	1575.3	1531.3	1452.0	1366.7	1288.7	1216.0	1202.0	1150.7
42.5°	1671.3	1666.0	1644.7	1613.3	1556.7	1465.3	1371.3	1288.7	1212.7	1198.0	1146.0
45°	1698.0	1692.7	1672.0	1632.0	1564.7	1462.7	1363.3	1277.3	1201.3	1188.7	1136.7
47.5°	1698.0	1696.0	1673.3	1634.7	1562.7	1455.3	1351.3	1263.3	1190.0	1177.3	1128.7
50°	1684.7	1683.3	1663.3	1625.3	1556.0	1451.3	1348.0	1260.7	1189.3	1176.7	1132.0
52.5°	1729.3	1720.7	1700.0	1656.0	1580.7	1468.0	1364.7	1274.0	1205.3	1192.7	1146.7
55°	2272.7	2265.3	2160.7	1976.7	1784.0	1608.0	1457.3	1353.3	1284.0	1264.7	1231.3
57.5°	3151.3	3140.7	3033.3	2866.0	2534.7	2158.0	1862.7	1689.3	1592.0	1578.0	1558.0
60°	3508.0	3504.0	3458.7	3390.7	3265.3	3070.7	2796.0	2508.0	2284.0	2248.0	2250.7
62.5°	3712.7	3702.7	3680.7	3664.0	3621.3	3542.0	3490.7	3410.0	3301.3	3276.7	3120.7
65°	3827.3	3826.0	3838.0	3852.0	3849.3	3873.3	3899.3	4053.3	4234.0	4226.0	4061.3
67.5°	3656.7	3668.0	3730.7	3826.7	3927.3	4034.0	4232.7	4541.3	4764.7	4764.7	4620.0
70°	2628.7	2626.7	2793.3	3097.3	3368.0	3766.7	4132.7	4641.3	5006.7	5026.0	4872.7
72.5°	1575.3	1612.0	1714.7	1852.7	2082.7	2565.3	3246.0	4160.0	4670.0	4690.7	4507.3
75°	1106.7	1079.3	1075.3	1083.3	1122.7	1241.3	1616.0	2553.3	3385.3	3417.3	3240.0
77.5°	708.0	702.0	704.7	713.3	715.3	726.7	744.7	875.3	1569.3	1722.7	1714.7
80°	610.7	608.7	609.3	599.3	580.0	572.7	595.3	577.3	560.7	584.0	552.0
82.5°	409.3	416.7	428.7	444.7	483.3	496.7	489.3	486.0	433.3	421.3	374.0
85°	303.3	299.3	304.0	304.0	294.0	284.0	291.3	284.0	251.3	235.3	208.0
87.5°	164.0	164.7	178.0	183.3	182.7	156.0	128.7	111.3	100.7	93.3	78.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CATALOG NUMBER: ECM-E02-LED-E1-SL4

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	1147.3	1147.3	1147.3	1147.3	1147.3	1147.3	1147.3	1147.3	1147.3	1147.3	1147.3
2.5°	1144.0	1142.0	1142.7	1142.7	1142.0	1143.3	1141.3	1140.7	1141.3	1141.3	1141.3
5°	1132.7	1130.0	1130.0	1129.3	1128.0	1128.0	1125.3	1124.7	1123.3	1125.3	1124.0
7.5°	1116.7	1112.7	1109.3	1106.7	1105.3	1103.3	1100.0	1098.7	1097.3	1096.7	1095.3
10°	1097.3	1092.7	1086.0	1080.7	1078.0	1072.7	1068.7	1063.3	1063.3	1060.7	1058.0
12.5°	1074.0	1067.3	1060.7	1053.3	1048.7	1041.3	1034.7	1028.7	1024.0	1018.0	1014.0
15°	1050.7	1040.7	1033.3	1026.0	1017.3	1007.3	999.3	990.0	981.3	972.0	969.3
17.5°	1025.3	1017.3	1010.7	1002.0	992.7	980.7	970.0	954.7	944.0	932.7	924.0
20°	1008.7	999.3	992.0	984.0	974.0	960.0	946.0	928.7	912.7	896.0	883.3
22.5°	1000.0	984.7	978.0	970.7	960.7	945.3	929.3	908.0	888.0	866.0	846.0
25°	1003.3	982.7	969.3	961.3	952.7	937.3	916.7	892.7	870.0	842.0	819.3
27.5°	1018.0	990.0	969.3	956.0	946.7	930.7	909.3	882.0	854.7	825.3	798.0
30°	1037.3	1002.0	975.3	956.0	942.0	924.7	901.3	872.0	842.0	809.3	778.0
32.5°	1059.3	1016.0	984.0	957.3	934.7	912.7	888.7	858.0	826.7	792.0	761.3
35°	1076.7	1026.7	990.0	954.7	924.7	897.3	869.3	840.7	809.3	776.7	744.0
37.5°	1086.7	1033.3	990.0	945.3	908.7	880.0	850.7	822.7	792.7	760.7	732.0
40°	1090.7	1036.0	986.0	934.7	892.0	859.3	832.0	803.3	776.7	748.7	723.3
42.5°	1088.7	1034.0	980.7	924.7	878.7	843.3	813.3	786.7	764.7	741.3	720.0
45°	1080.7	1027.3	975.3	920.0	874.0	838.0	807.3	782.0	761.3	740.0	723.3
47.5°	1074.0	1024.7	978.7	931.3	887.3	850.7	817.3	789.3	772.0	755.3	744.7
50°	1079.3	1032.0	986.0	941.3	898.7	861.3	827.3	801.3	791.3	788.7	785.3
52.5°	1094.0	1047.3	1008.7	977.3	958.0	944.0	909.3	903.3	894.7	890.0	878.7
55°	1189.3	1170.0	1204.7	1242.7	1249.3	1291.3	1308.0	1309.3	1294.7	1242.7	1121.3
57.5°	1577.3	1625.3	1640.0	1728.0	1752.0	1733.3	1708.0	1706.7	1661.3	1592.7	1416.0
60°	2270.7	2245.3	2214.0	2156.7	2102.7	2044.7	1964.7	1903.3	1845.3	1740.0	1554.0
62.5°	2996.0	2775.3	2614.7	2450.0	2316.7	2200.0	2084.0	1985.3	1891.3	1745.3	1546.0
65°	3625.3	3176.0	2850.0	2602.7	2396.0	2225.3	2071.3	1936.7	1818.0	1635.3	1433.3
67.5°	4034.7	3388.7	2901.3	2532.0	2240.0	2022.7	1796.0	1583.3	1466.7	1319.3	1216.7
70°	4139.3	3238.7	2558.7	2085.3	1692.0	1432.7	1165.3	933.3	826.0	784.7	788.0
72.5°	3734.0	2560.0	1814.0	1326.7	1038.7	823.3	669.3	514.7	402.0	337.3	329.3
75°	2439.3	1424.7	861.3	600.0	477.3	380.0	299.3	252.0	217.3	175.3	146.7
77.5°	922.0	542.7	386.7	315.3	233.3	162.7	126.7	106.7	98.0	95.3	86.0
80°	472.7	376.7	269.3	177.3	124.0	99.3	83.3	70.7	65.3	62.7	64.0
82.5°	318.7	237.3	148.7	106.7	86.0	74.0	58.7	49.3	44.0	43.3	46.7
85°	177.3	118.7	86.7	72.0	63.3	55.3	44.7	36.7	34.0	36.0	42.0
87.5°	55.3	54.7	39.3	32.0	33.3	28.7	21.3	16.0	16.0	20.7	29.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	1147.3	1147.3	1147.3	1147.3	1147.3	1147.3	1147.3	1147.3	1147.3	1147.3	1147.3
2.5°	1141.3	1142.7	1145.3	1143.3	1144.0	1144.7	1146.7	1149.3	1147.3	1146.0	1150.0
5°	1125.3	1125.3	1128.7	1127.3	1130.0	1132.7	1134.0	1138.7	1137.3	1136.0	1141.3
7.5°	1096.0	1096.7	1101.3	1100.0	1105.3	1106.0	1111.3	1115.3	1115.3	1118.0	1122.7
10°	1058.7	1058.7	1062.7	1063.3	1066.7	1069.3	1075.3	1082.7	1084.0	1088.7	1095.3
12.5°	1016.7	1015.3	1018.7	1018.7	1021.3	1024.7	1031.3	1040.0	1041.3	1048.7	1057.3
15°	964.7	962.7	961.3	962.7	964.0	964.7	974.7	983.3	988.7	996.7	1005.3
17.5°	914.7	907.3	904.0	904.0	904.7	904.7	908.7	918.7	926.0	938.7	951.3
20°	870.0	857.3	852.7	842.0	840.0	835.3	838.7	850.0	863.3	873.3	883.3
22.5°	828.0	814.7	801.3	788.7	778.7	772.7	778.7	786.0	790.7	798.7	801.3
25°	796.0	774.0	755.3	735.3	724.7	719.3	718.7	718.0	714.0	712.7	712.7
27.5°	770.7	744.7	716.7	694.7	680.0	670.0	658.7	650.7	640.7	627.3	620.7
30°	749.3	721.3	690.7	664.7	646.0	626.7	603.3	585.3	567.3	551.3	537.3
32.5°	730.0	701.3	671.3	644.0	612.0	578.7	549.3	528.0	496.7	475.3	457.3
35°	715.3	686.7	658.7	622.7	578.7	536.0	498.0	466.7	434.7	406.7	382.7
37.5°	704.7	680.7	650.7	602.0	546.7	495.3	455.3	418.0	380.0	342.0	312.0
40°	701.3	680.7	642.7	579.3	516.0	460.7	414.7	368.7	326.7	286.0	255.3
42.5°	703.3	681.3	630.0	559.3	490.7	430.7	378.7	325.3	275.3	232.0	201.3
45°	710.7	681.3	616.7	537.3	467.3	403.3	341.3	278.0	220.0	185.3	172.0
47.5°	732.7	686.0	606.0	521.3	446.7	373.3	299.3	227.3	178.0	163.3	163.3
50°	766.7	700.0	604.7	509.3	423.3	338.7	247.3	179.3	157.3	156.7	160.7
52.5°	824.7	724.7	611.3	501.3	398.7	292.0	192.7	154.7	150.0	154.0	160.0
55°	937.3	768.0	620.7	486.7	357.3	228.7	158.0	146.7	148.7	153.3	158.7
57.5°	1143.3	855.3	630.7	455.3	289.3	173.3	143.3	144.0	147.3	152.0	156.7
60°	1285.3	963.3	650.7	402.7	215.3	143.3	137.3	142.7	146.7	150.0	154.0
62.5°	1297.3	1002.7	665.3	343.3	160.0	130.7	132.0	140.0	145.3	146.7	148.7
65°	1225.3	952.0	623.3	283.3	132.7	124.0	128.7	136.0	141.3	142.0	144.0
67.5°	1068.0	846.0	532.0	215.3	121.3	119.3	124.7	129.3	133.3	136.7	139.3
70°	827.3	690.7	428.0	167.3	112.7	112.0	116.7	122.0	126.0	129.3	133.3
72.5°	436.0	490.7	318.7	134.0	103.3	104.0	108.7	113.3	116.0	119.3	123.3
75°	135.3	208.0	196.7	107.3	92.0	94.7	97.3	101.3	106.0	108.0	110.0
77.5°	80.0	84.7	102.7	84.0	80.0	82.0	85.3	88.7	92.0	94.7	96.7
80°	64.7	66.0	66.7	66.7	66.7	69.3	72.0	76.7	79.3	80.7	81.3
82.5°	50.7	54.0	54.7	53.3	55.3	58.0	59.3	62.0	62.7	64.0	65.3
85°	42.0	41.3	42.7	43.3	40.7	40.7	39.3	39.3	42.0	46.7	47.3
87.5°	32.7	28.7	23.3	22.0	20.7	19.3	18.0	18.0	18.7	21.3	23.3
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: P141230

CATALOG NUMBER: ECM-E02-LED-E1-SL4

CANDELA DISTRIBUTION (continued):

	160°	165°	170°	175°	180°
0°	1147.3	1147.3	1147.3	1147.3	1147.3
2.5°	1150.0	1149.3	1150.7	1152.7	1151.3
5°	1142.0	1142.0	1144.7	1146.7	1145.3
7.5°	1126.0	1126.7	1130.7	1133.3	1132.0
10°	1100.7	1102.0	1106.7	1110.7	1112.7
12.5°	1062.7	1067.3	1073.3	1077.3	1077.3
15°	1014.7	1022.0	1028.7	1034.7	1031.3
17.5°	960.0	968.7	977.3	980.7	977.3
20°	894.0	894.7	900.0	903.3	902.0
22.5°	804.0	801.3	804.0	805.3	807.3
25°	712.0	707.3	704.7	708.7	710.7
27.5°	618.0	611.3	613.3	608.7	603.3
30°	526.7	520.7	513.3	511.3	514.7
32.5°	446.0	430.7	424.7	413.3	418.0
35°	360.7	345.3	330.7	326.7	324.0
37.5°	290.7	272.0	254.0	248.0	246.7
40°	227.3	212.0	200.0	196.7	195.3
42.5°	184.7	178.0	176.0	176.0	176.7
45°	168.7	169.3	171.3	172.7	173.3
47.5°	165.3	168.0	170.7	173.3	174.0
50°	165.3	167.3	169.3	172.0	172.7
52.5°	164.0	166.0	166.7	168.0	169.3
55°	162.7	163.3	163.3	164.0	165.3
57.5°	159.3	160.0	158.7	159.3	162.0
60°	156.0	156.7	155.3	156.7	157.3
62.5°	151.3	151.3	150.7	151.3	152.0
65°	146.0	144.0	145.3	144.7	145.3
67.5°	139.3	136.7	136.0	136.0	136.7
70°	130.0	128.0	127.3	128.7	130.0
72.5°	118.7	120.0	122.0	124.0	127.3
75°	110.7	112.7	115.3	122.0	126.7
77.5°	99.3	98.7	101.3	108.7	115.3
80°	82.7	83.3	82.7	84.7	86.0
82.5°	63.3	62.7	60.7	60.7	59.3
85°	44.7	42.7	40.0	39.3	38.7
87.5°	22.7	24.0	22.0	20.0	20.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)