

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: P140914

Luminaire Tested: **ECM-F02-LED-E1-SL2-7030**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P140914
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33690)
Test Lab: INNOVATION CENTER-P3
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: ECM-F02-LED-E1-SL2-7030
Description: EPIC CLASSICAL MEDIUM DECORATIVE LED LUMINAIRE
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 2 W/ SPILL LIGHT CONTROL
Light Source: (14) 3000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4339.8 lumens
Efficiency: N/A
Efficacy: 78.9 lumens/watt
Luminous Opening: Rectangular (W 0.33' x L: 1' x H: 0')
IES Classification: Type II - Short - Non-Cutoff
BUG Rating: B1 - U0 - G1

Input Watts (W): 55
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

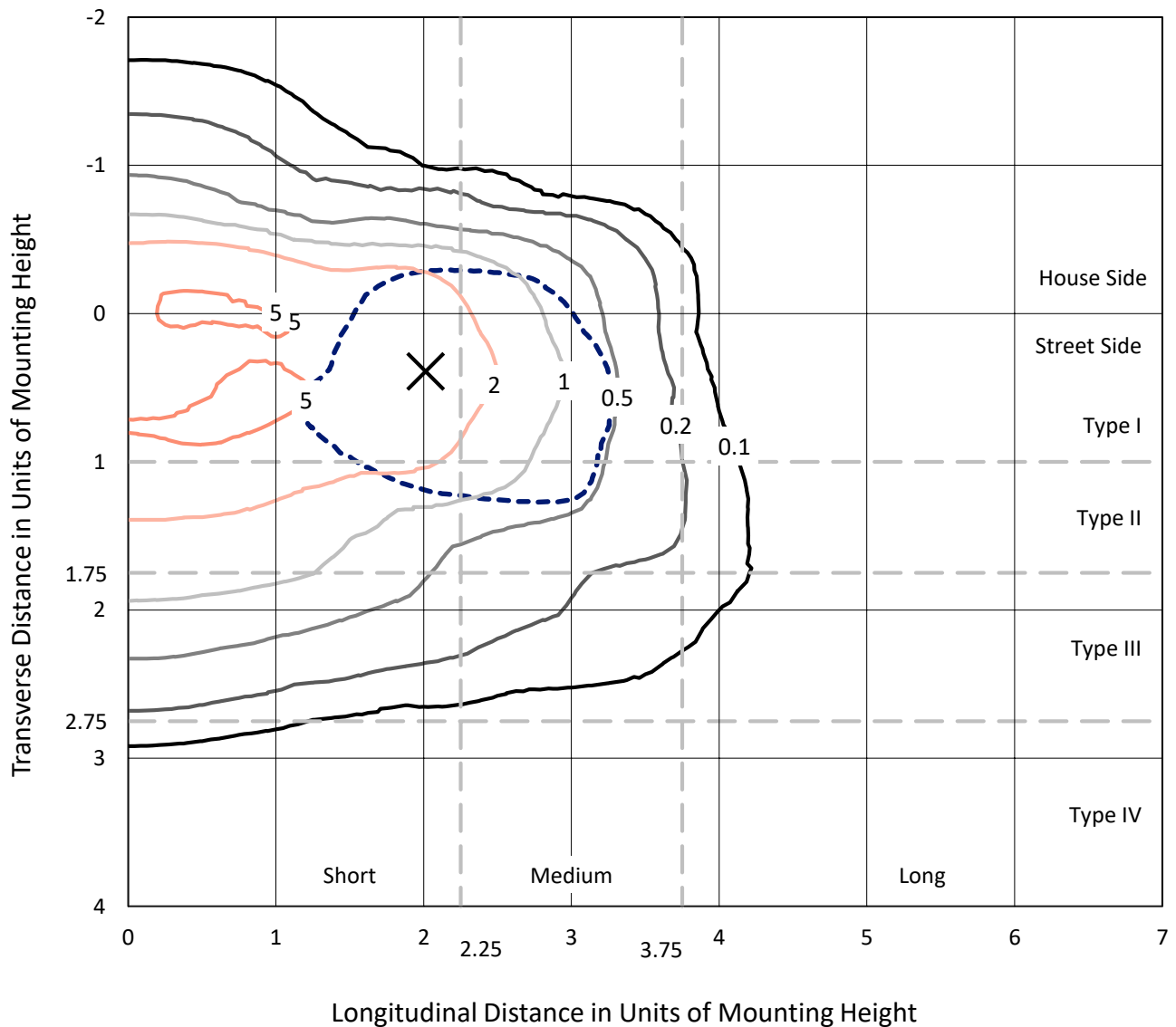


REPORT NUMBER: P140914

CATALOG NUMBER: ECM-F02-LED-E1-SL2-7030

Iso-Footcandle Lines of Horizontal Illumination

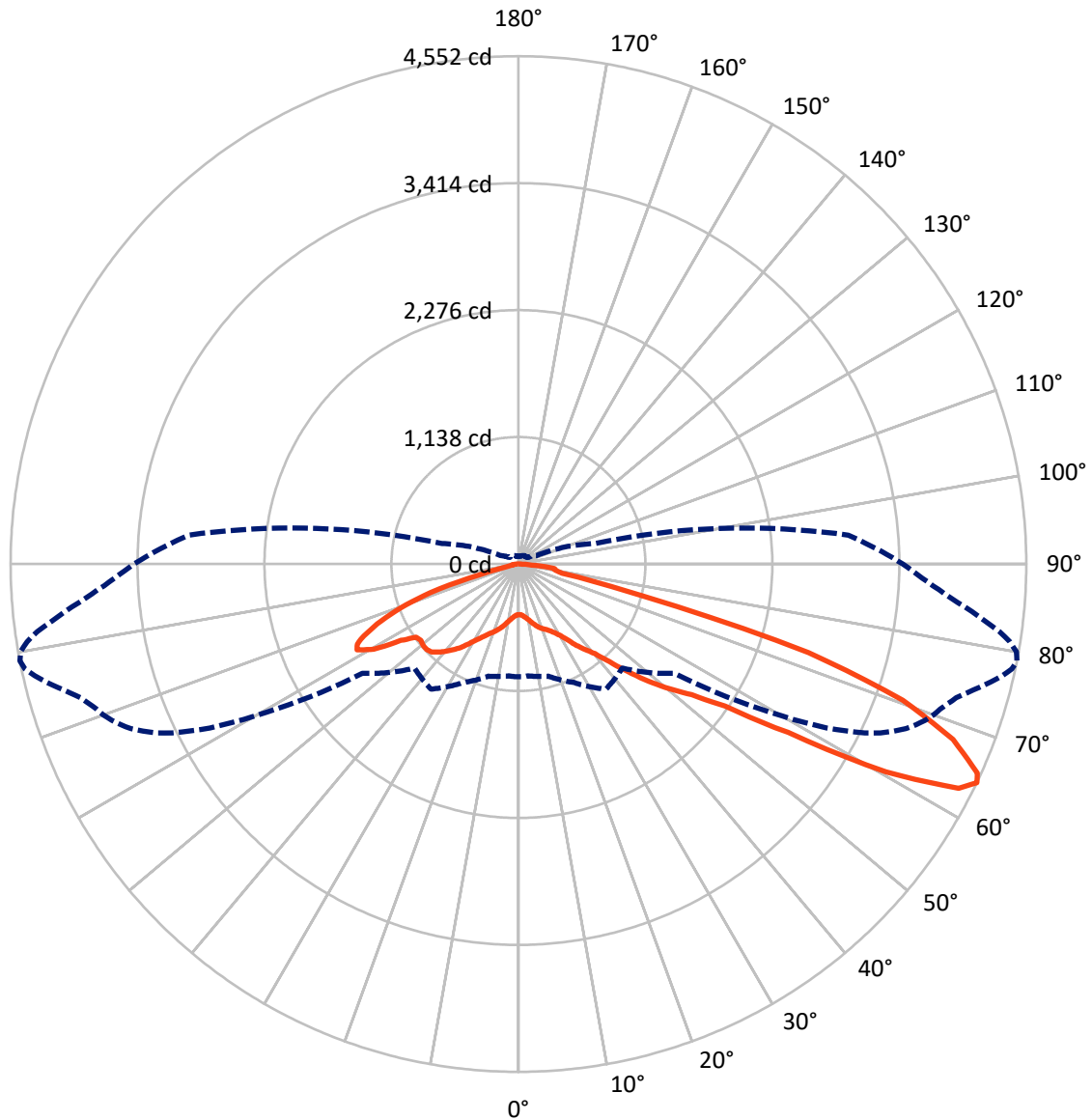
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6.1 fc
 Type II - Short - Non-Cutoff

REPORT NUMBER: P140914
CATALOG NUMBER: ECM-F02-LED-E1-SL2-7030

Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral - - - Horizontal Cone Through 64-Deg Vertical

REPORT NUMBER: P140914

CATALOG NUMBER: ECM-F02-LED-E1-SL2-7030

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1034.5	0.0	1034.5
	% Fixture	23.8	0.0	23.8
Street Side	Lumens	3305.4	0.0	3305.4
	% Fixture	76.2	0.0	76.2
Total	Lumens	4339.8	0.0	4339.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.0	1.0
10°-20°	145.8	3.4
20°-30°	250.2	5.8
30°-40°	418.3	9.6
40°-50°	716.6	16.5
50°-60°	966.7	22.3
60°-70°	1222.8	28.2
70°-80°	487.9	11.2
80°-90°	86.5	2.0
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°	4339.8	100.0
0°-180°	4339.8	100.0



REPORT NUMBER: P140914

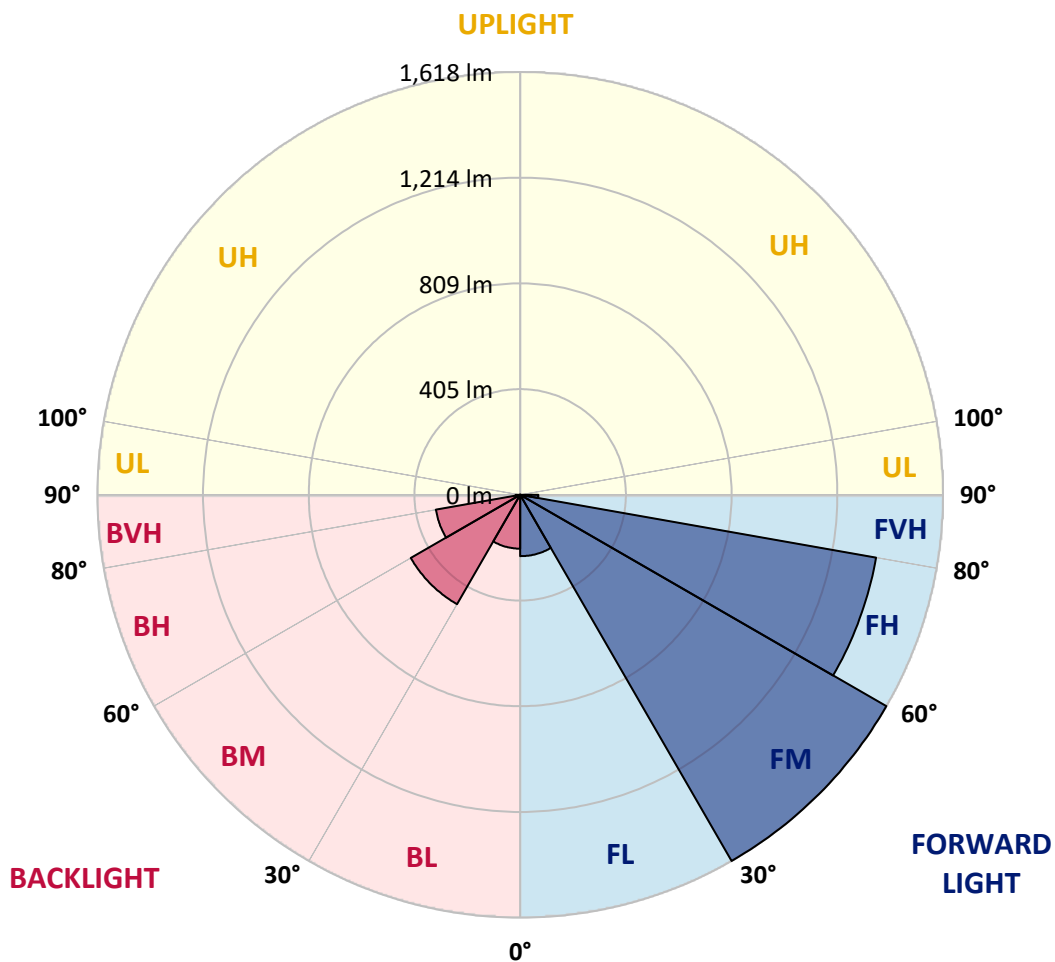
CATALOG NUMBER: ECM-F02-LED-E1-SL2-7030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	234.9	5.4			
FM	(30°-60°)	1618.2	37.3			
FH	(60°-80°)	1383.0	31.9			G1/1800
FVH	(80°-90°)	69.3	1.6			G1/100
BL	(0°-30°)	206.1	4.7	B1/500		
BM	(30°-60°)	483.4	11.1	B1/1000		
BH	(60°-80°)	327.7	7.6	B1/500		G1/500
BVH	(80°-90°)	17.2	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-G1

Type II Short





REPORT NUMBER: P140914

CATALOG NUMBER: ECM-F02-LED-E1-SL2-7030

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	61°	62°	64°
0°	453.9	453.9	453.9	453.9	453.9	453.9	453.9	453.9	453.9	453.9	453.9
2.5°	451.9	452.4	451.9	453.4	454.4	455.9	455.9	455.9	455.9	455.9	455.9
5°	451.4	451.9	451.4	453.9	456.4	459.4	462.4	463.5	463.5	464.0	464.5
7.5°	455.9	456.4	455.9	458.9	462.4	467.5	473.0	476.0	476.5	477.0	478.0
10°	470.0	469.0	467.0	470.0	473.5	481.0	487.6	492.6	494.1	494.6	496.6
12.5°	488.6	488.1	484.6	483.1	485.1	493.6	505.7	512.7	514.2	514.7	516.7
15°	502.7	501.2	498.1	496.1	499.6	508.7	524.8	533.8	536.8	537.3	540.9
17.5°	511.7	510.7	505.7	504.2	509.7	523.8	543.9	554.9	556.9	558.5	562.5
20°	526.8	523.8	516.2	509.7	514.2	535.8	559.5	571.0	574.0	575.5	579.1
22.5°	546.9	544.4	535.3	518.7	518.7	542.9	573.5	586.6	589.1	592.1	596.2
25°	581.6	579.6	562.0	533.8	526.8	549.9	586.6	604.2	606.7	610.2	616.3
27.5°	617.3	614.8	595.2	557.5	540.9	563.0	605.7	626.8	630.3	634.4	641.4
30°	663.0	658.5	638.9	595.2	568.5	584.1	635.9	662.5	666.5	671.6	681.1
32.5°	765.6	767.6	731.9	685.6	638.9	632.3	682.6	715.3	721.3	727.9	740.9
35°	932.4	924.4	911.3	864.1	812.3	761.0	773.6	808.8	815.3	817.3	822.9
37.5°	1039.0	1043.5	1054.1	1054.1	1015.4	993.8	958.1	941.0	942.5	944.5	940.0
40°	1098.3	1107.9	1144.1	1192.8	1228.0	1247.6	1241.6	1161.7	1152.1	1139.5	1099.3
42.5°	1141.0	1150.6	1212.4	1305.9	1393.4	1462.7	1500.9	1438.1	1431.1	1400.9	1352.7
45°	1167.2	1174.7	1249.1	1381.8	1514.0	1632.1	1736.7	1714.6	1712.6	1686.9	1623.6
47.5°	1162.2	1168.7	1246.1	1405.9	1579.4	1739.7	1901.6	1941.8	1943.8	1937.3	1898.6
50°	1087.8	1103.3	1180.3	1352.7	1543.2	1781.4	2008.1	2113.2	2116.2	2122.2	2107.2
52.5°	1021.4	1033.5	1102.3	1256.7	1439.6	1740.2	2072.0	2238.9	2264.5	2279.1	2307.2
55°	994.3	1001.3	1054.1	1185.3	1354.2	1630.1	2093.6	2329.8	2375.6	2403.2	2467.6
57.5°	989.2	994.8	1035.5	1135.5	1297.4	1516.5	2086.6	2452.0	2524.4	2576.6	2701.3
60°	1022.9	1027.9	1056.6	1140.5	1258.2	1433.6	2022.2	2612.8	2714.4	2855.1	3056.2
62.5°	1048.1	1050.6	1085.8	1203.4	1301.4	1352.7	1858.3	2725.4	2905.9	3084.8	3383.9
64°	1011.4	1006.3	1041.0	1170.7	1368.2	1318.0	1706.5	2719.9	2931.5	3130.1	3453.8
65°	957.6	961.1	992.3	1106.9	1356.7	1316.5	1607.0	2659.6	2879.2	3089.9	3421.1
67.5°	743.9	757.5	766.1	871.1	1111.4	1359.2	1345.6	2275.6	2496.2	2697.3	3088.9
70°	400.1	398.6	417.7	500.7	773.1	1153.6	1154.6	1604.0	1848.3	2098.1	2487.7
72.5°	147.3	154.8	169.9	228.7	401.6	832.4	1058.1	1112.4	1221.5	1420.0	1837.7
75°	84.4	85.5	88.5	107.6	193.5	459.4	983.2	984.2	992.3	1024.9	1252.1
77.5°	65.8	63.8	65.3	69.9	105.6	241.8	788.7	935.0	933.9	928.9	962.1
80°	49.3	51.3	54.3	54.3	65.3	129.7	448.4	831.9	860.1	881.2	893.2
82.5°	39.7	41.2	48.8	48.8	47.8	73.4	211.6	616.3	704.7	762.0	851.0
85°	25.6	27.1	41.2	40.7	38.7	43.2	110.6	206.6	222.7	271.4	386.0
87.5°	7.0	8.5	19.1	16.6	20.1	16.1	41.2	62.8	77.4	87.5	110.1
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: P140914

CATALOG NUMBER: ECM-F02-LED-E1-SL2-7030

CANDELA DISTRIBUTION (continued):

	65°	66°	67°	68°	69°	70°	71°	72°	73°	74°	75°
0°	453.9	453.9	453.9	453.9	453.9	453.9	453.9	453.9	453.9	453.9	453.9
2.5°	455.9	455.9	455.9	456.4	456.4	456.4	456.4	456.4	456.9	455.9	455.9
5°	465.0	464.5	465.0	465.0	466.5	466.0	466.5	466.5	466.0	467.0	467.0
7.5°	479.5	478.5	479.5	480.0	480.5	482.6	482.6	483.6	484.1	484.6	483.6
10°	497.1	498.6	499.1	499.1	501.7	502.7	502.7	504.2	505.7	506.7	506.2
12.5°	518.7	519.8	520.3	523.3	523.8	525.3	527.8	529.3	529.3	531.8	533.3
15°	542.9	543.9	546.9	547.9	549.9	552.4	553.9	555.4	555.4	560.0	561.5
17.5°	563.5	565.5	567.5	569.0	572.5	575.0	577.6	579.1	581.6	583.6	587.1
20°	581.1	583.6	586.1	589.1	591.6	594.1	597.2	599.2	602.2	605.2	608.7
22.5°	598.2	601.2	604.2	606.7	610.2	612.7	615.3	618.8	620.8	623.8	627.8
25°	616.8	621.8	624.8	628.3	631.8	635.4	638.4	641.4	644.4	648.4	652.5
27.5°	646.4	648.9	653.0	655.0	661.0	665.0	669.0	669.5	673.6	681.1	682.1
30°	685.1	689.7	692.2	699.2	700.2	701.7	708.3	712.8	717.8	723.8	726.3
32.5°	743.4	747.5	751.0	753.0	758.5	767.6	768.6	772.6	781.1	782.6	791.7
35°	828.9	829.9	835.4	838.4	845.5	850.5	853.0	856.5	861.1	871.6	874.1
37.5°	931.4	940.0	932.9	925.9	938.5	937.0	940.0	936.0	948.0	948.5	953.0
40°	1090.8	1087.3	1072.2	1056.1	1048.6	1044.0	1035.0	1033.0	1039.5	1036.5	1038.0
42.5°	1325.5	1292.3	1266.7	1247.6	1224.0	1198.3	1183.8	1161.7	1161.7	1155.1	1161.1
45°	1601.5	1564.3	1516.5	1471.3	1442.1	1408.5	1373.8	1350.7	1327.0	1309.4	1325.0
47.5°	1873.4	1848.3	1795.0	1753.3	1695.0	1644.7	1589.9	1542.2	1514.0	1493.4	1496.4
50°	2109.7	2086.6	2058.9	2002.6	1958.4	1907.1	1849.3	1786.5	1725.6	1701.0	1679.9
52.5°	2308.7	2300.7	2277.1	2250.9	2214.7	2159.9	2123.2	2063.4	1991.5	1939.8	1917.7
55°	2484.7	2498.7	2511.3	2505.8	2492.7	2485.7	2440.4	2399.7	2351.0	2335.9	2290.1
57.5°	2761.6	2802.3	2850.6	2877.2	2903.4	2963.2	2977.8	2962.2	2968.2	2964.2	2940.1
60°	3153.7	3252.2	3336.7	3404.0	3475.9	3545.8	3628.2	3682.5	3705.1	3792.6	3791.1
62.5°	3490.0	3621.2	3729.3	3810.2	3894.1	3957.5	4010.7	4065.0	4131.4	4194.7	4274.6
64°	3581.5	3684.5	3772.5	3844.9	3905.2	3957.0	3997.7	4047.4	4102.2	4184.2	4272.6
65°	3534.2	3650.3	3714.2	3779.5	3833.8	3874.0	3915.7	3961.0	4030.3	4095.2	4189.7
67.5°	3213.0	3301.0	3393.5	3454.3	3506.6	3530.2	3569.4	3607.1	3645.8	3711.2	3829.3
70°	2709.3	2807.9	2941.1	2998.4	3052.7	3061.2	3097.9	3126.1	3151.7	3238.7	3297.0
72.5°	2032.8	2223.8	2354.5	2455.0	2466.1	2508.8	2523.9	2535.4	2564.6	2580.7	2598.3
75°	1400.9	1572.8	1683.9	1722.1	1768.9	1746.2	1720.1	1628.1	1628.6	1550.7	1462.2
77.5°	985.7	1012.4	1013.4	1013.9	952.0	915.9	874.6	821.9	801.2	760.0	703.7
80°	893.7	890.7	872.1	849.5	815.8	767.6	717.8	683.1	656.0	625.3	585.1
82.5°	862.6	869.6	856.0	836.9	817.3	769.6	712.3	658.0	613.2	564.5	515.2
85°	420.2	432.3	471.5	497.1	503.2	473.5	432.8	383.5	336.3	283.0	258.4
87.5°	126.2	135.2	138.2	146.8	157.3	143.3	126.2	113.1	91.0	78.9	61.8
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: P140914

CATALOG NUMBER: ECM-F02-LED-E1-SL2-7030

CANDELA DISTRIBUTION (continued):

	76°	77°	78°	79°	80°	81°	82°	83°	84°	85°	86°
0°	453.9	453.9	453.9	453.9	453.9	453.9	453.9	453.9	453.9	453.9	453.9
2.5°	455.9	456.4	456.4	455.9	456.4	456.4	456.9	456.4	456.4	456.4	455.9
5°	466.0	468.0	467.5	467.5	468.5	468.5	468.0	469.0	468.5	468.5	468.0
7.5°	485.1	485.1	486.6	487.1	486.1	486.1	487.1	487.6	488.6	489.1	489.1
10°	507.2	509.7	509.7	510.2	510.7	512.2	512.7	512.7	513.7	513.7	514.7
12.5°	534.3	535.3	536.3	538.9	539.4	539.4	541.9	541.4	541.4	543.9	544.4
15°	563.5	565.0	567.5	568.5	569.5	572.0	573.5	575.0	574.5	578.1	579.1
17.5°	589.1	590.6	593.6	596.2	597.7	599.2	600.2	602.2	605.2	607.7	608.2
20°	609.7	611.7	615.3	618.3	620.8	622.3	626.3	628.3	629.3	631.3	633.9
22.5°	629.8	633.4	636.9	637.9	643.4	644.9	647.9	650.9	653.0	657.5	659.0
25°	655.0	658.0	662.5	665.5	669.0	672.1	675.1	677.6	682.1	686.1	688.1
27.5°	688.1	690.7	694.2	699.7	702.7	704.7	710.3	715.3	717.3	721.3	724.8
30°	731.9	734.4	739.4	744.9	747.5	754.0	758.0	761.5	765.6	771.1	776.1
32.5°	795.7	798.7	803.3	810.3	810.3	814.8	823.4	830.9	833.9	840.5	844.0
35°	879.7	880.2	885.2	895.7	898.8	897.8	905.8	912.8	914.8	924.9	931.4
37.5°	961.1	962.6	968.6	972.7	978.2	982.2	987.7	998.3	998.3	1012.9	1018.9
40°	1045.5	1053.1	1054.1	1055.1	1064.1	1080.2	1085.8	1096.3	1105.9	1119.9	1126.5
42.5°	1168.2	1176.2	1185.8	1196.8	1210.4	1219.5	1230.0	1245.1	1249.1	1266.7	1271.2
45°	1336.1	1345.6	1371.3	1373.8	1397.9	1410.0	1427.6	1447.7	1452.7	1464.3	1458.2
47.5°	1503.5	1514.5	1542.7	1571.8	1593.9	1615.1	1620.1	1628.6	1636.2	1629.1	1631.1
50°	1688.9	1705.0	1731.7	1757.3	1773.9	1798.0	1798.0	1800.0	1793.0	1781.4	1762.8
52.5°	1906.1	1908.6	1925.7	1945.8	1960.9	1965.9	1965.9	1954.4	1937.3	1918.7	1882.5
55°	2268.5	2240.9	2245.9	2245.9	2234.8	2225.8	2218.8	2190.6	2156.9	2123.2	2090.1
57.5°	2921.5	2947.6	2869.7	2848.6	2849.6	2780.7	2752.6	2704.3	2668.1	2607.8	2557.0
60°	3852.9	3834.8	3809.2	3785.0	3787.1	3696.1	3632.2	3560.4	3497.5	3364.8	3308.5
62.5°	4346.0	4410.4	4447.1	4428.5	4385.7	4328.9	4224.4	4115.3	4004.7	3892.1	3791.1
64°	4364.1	4449.1	4521.4	4551.6	4531.5	4459.6	4353.1	4217.3	4085.6	3952.9	3830.8
65°	4276.7	4384.2	4477.7	4519.9	4520.9	4457.6	4351.0	4214.3	4073.6	3919.8	3792.6
67.5°	3913.7	4037.4	4129.4	4200.2	4261.1	4228.9	4155.0	4009.7	3876.5	3702.1	3562.9
70°	3369.3	3445.8	3549.3	3652.8	3701.6	3709.1	3681.5	3608.1	3452.3	3310.5	3131.1
72.5°	2596.8	2715.4	2654.6	2718.4	2759.1	2719.4	2724.4	2599.3	2549.0	2424.3	2298.2
75°	1375.3	1379.3	1353.2	1163.2	1139.5	1052.6	1149.1	976.7	917.9	863.6	793.7
77.5°	637.9	555.4	478.5	399.6	326.7	286.0	223.2	196.5	176.9	155.8	160.3
80°	533.3	470.0	402.6	333.8	280.5	226.7	182.0	141.2	113.1	95.0	86.5
82.5°	472.0	416.2	369.5	327.2	289.0	236.3	194.0	149.8	115.1	87.0	67.4
85°	213.1	166.9	151.8	119.6	101.5	86.5	68.9	56.8	46.7	39.7	31.2
87.5°	49.8	34.2	29.2	27.6	24.1	22.6	19.1	20.1	16.6	13.1	13.6
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: P140914

CATALOG NUMBER: ECM-F02-LED-E1-SL2-7030

CANDELA DISTRIBUTION (continued):

	87°	88°	89°	90°	95°	105°	115°	125°	135°	145°	155°
0°	453.9	453.9	453.9	453.9	453.9	453.9	453.9	453.9	453.9	453.9	453.9
2.5°	455.9	455.9	456.4	456.4	456.9	457.9	459.4	457.9	457.9	457.9	458.4
5°	469.0	469.5	469.0	469.0	470.0	471.5	472.0	469.0	467.5	466.0	464.0
7.5°	488.1	490.1	489.6	489.6	490.6	490.6	489.6	485.1	480.5	473.5	467.5
10°	514.7	515.7	515.7	515.7	517.2	518.2	513.7	503.7	491.6	479.0	468.0
12.5°	546.4	545.9	547.4	548.9	547.9	547.9	539.4	523.8	504.2	483.6	464.5
15°	579.6	580.1	580.1	582.6	583.1	581.1	567.5	543.4	513.2	482.1	451.4
17.5°	610.7	611.7	612.2	614.3	616.8	611.2	591.6	559.0	514.7	468.0	426.8
20°	636.9	638.4	639.9	641.4	643.9	639.9	613.8	566.5	506.7	445.4	398.1
22.5°	660.5	663.0	664.0	666.5	670.6	665.5	633.9	566.5	488.6	420.7	365.9
25°	689.2	692.2	697.2	698.2	705.2	699.7	649.9	562.5	468.0	389.6	331.3
27.5°	726.8	729.9	734.4	736.9	745.4	737.9	662.0	551.9	442.3	355.9	297.6
30°	776.6	779.6	785.2	787.7	803.3	778.1	670.0	535.8	412.7	316.7	258.9
32.5°	846.0	854.0	853.5	860.1	874.1	822.9	673.6	513.2	375.5	277.0	222.7
35°	937.0	942.5	947.5	956.6	963.1	870.6	671.1	483.6	329.2	235.7	191.0
37.5°	1024.4	1034.0	1037.5	1043.5	1042.0	902.8	661.0	437.3	279.0	199.1	169.4
40°	1133.5	1139.0	1150.1	1155.6	1129.0	933.4	637.4	375.5	228.7	174.9	155.3
42.5°	1278.8	1285.8	1280.3	1278.8	1227.5	950.5	592.1	313.7	191.5	157.3	143.8
45°	1455.2	1458.2	1441.6	1430.6	1341.1	949.0	526.3	255.4	165.9	144.3	133.7
47.5°	1614.6	1608.5	1586.9	1570.3	1439.6	913.8	443.9	210.6	152.3	133.7	125.7
50°	1746.2	1719.6	1696.5	1675.4	1518.5	860.1	364.9	177.4	139.2	125.2	117.6
52.5°	1865.4	1829.2	1802.0	1766.4	1590.4	789.2	302.1	154.8	126.2	116.6	109.1
55°	2041.8	1999.6	1964.9	1929.7	1717.6	733.9	261.4	137.7	113.1	107.6	100.5
57.5°	2548.0	2434.9	2404.2	2372.6	2058.4	721.8	237.8	124.2	103.0	99.0	94.5
60°	3240.2	3166.8	3117.5	3040.1	2624.4	760.5	220.2	114.1	96.0	93.5	89.5
62.5°	3691.6	3603.1	3521.7	3442.7	2956.7	759.5	198.6	107.6	92.0	91.5	85.5
64°	3720.2	3621.2	3530.2	3445.2	2967.2	709.8	178.9	103.0	92.0	92.0	82.9
65°	3673.0	3573.4	3479.4	3391.0	2906.9	671.6	165.9	101.0	93.5	93.0	81.4
67.5°	3432.2	3332.1	3226.6	3131.6	2651.5	526.3	131.2	97.5	101.5	98.0	79.9
70°	3006.4	2892.8	2813.4	2745.0	2276.1	367.4	104.1	99.5	111.1	104.1	83.9
72.5°	2179.0	2086.6	2085.5	2008.1	1723.1	233.2	83.9	99.0	110.6	103.0	87.0
75°	846.5	725.8	721.8	749.0	732.9	126.2	72.4	87.5	90.5	86.0	76.9
77.5°	144.8	142.3	140.7	148.3	163.4	69.9	66.4	74.4	67.4	60.8	63.8
80°	80.4	76.9	75.9	75.9	71.4	57.3	58.8	59.3	48.8	45.2	52.8
82.5°	55.8	51.8	49.8	48.3	46.7	51.3	52.3	46.7	35.2	34.7	49.3
85°	27.1	25.6	25.1	25.1	28.7	48.3	43.2	36.2	23.6	23.6	53.3
87.5°	11.6	11.6	10.1	10.1	15.6	30.7	19.6	15.1	9.6	11.1	21.6
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: P140914

CATALOG NUMBER: ECM-F02-LED-E1-SL2-7030

CANDELA DISTRIBUTION (continued):

	165°	175°	180°
0°	453.9	453.9	453.9
2.5°	457.9	458.9	458.4
5°	461.4	461.4	460.4
7.5°	460.9	458.9	457.9
10°	457.9	452.4	451.9
12.5°	449.9	440.8	438.3
15°	426.8	414.7	411.7
17.5°	397.6	383.5	379.5
20°	364.4	348.3	342.8
22.5°	332.3	313.7	308.1
25°	297.1	278.5	275.5
27.5°	258.4	240.8	236.3
30°	222.7	207.6	204.1
32.5°	190.5	180.0	180.0
35°	169.4	160.3	160.3
37.5°	152.8	148.8	148.3
40°	141.8	138.2	137.7
42.5°	133.2	129.2	128.7
45°	124.2	120.1	120.1
47.5°	115.6	111.1	111.6
50°	107.1	103.5	103.5
52.5°	100.0	96.5	96.0
55°	93.5	90.0	89.5
57.5°	87.5	83.4	82.9
60°	81.4	77.4	76.4
62.5°	76.4	71.9	70.9
64°	73.4	68.9	67.9
65°	71.9	66.9	66.4
67.5°	70.4	63.8	63.3
70°	75.9	62.8	60.3
72.5°	76.4	61.3	58.3
75°	72.4	58.3	55.8
77.5°	63.8	53.3	50.3
80°	61.3	41.7	36.7
82.5°	56.3	34.2	28.7
85°	46.2	22.1	20.6
87.5°	26.6	14.6	10.6
90°	0.0	0.0	0.0

(END OF REPORT)