

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: METALUX

Report Number: P#

Luminaire Tested: **4SNLED-LD5-50HL-LN-UNV-L950-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P#
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33519)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4SNLED-LD5-50HL-LN-UNV-L950-CD1-U
Description: 4FT LINEAR SNLED LED FIXTURE
NARROW LENS
Light Source: -
Ballast/Driver: -

Summary

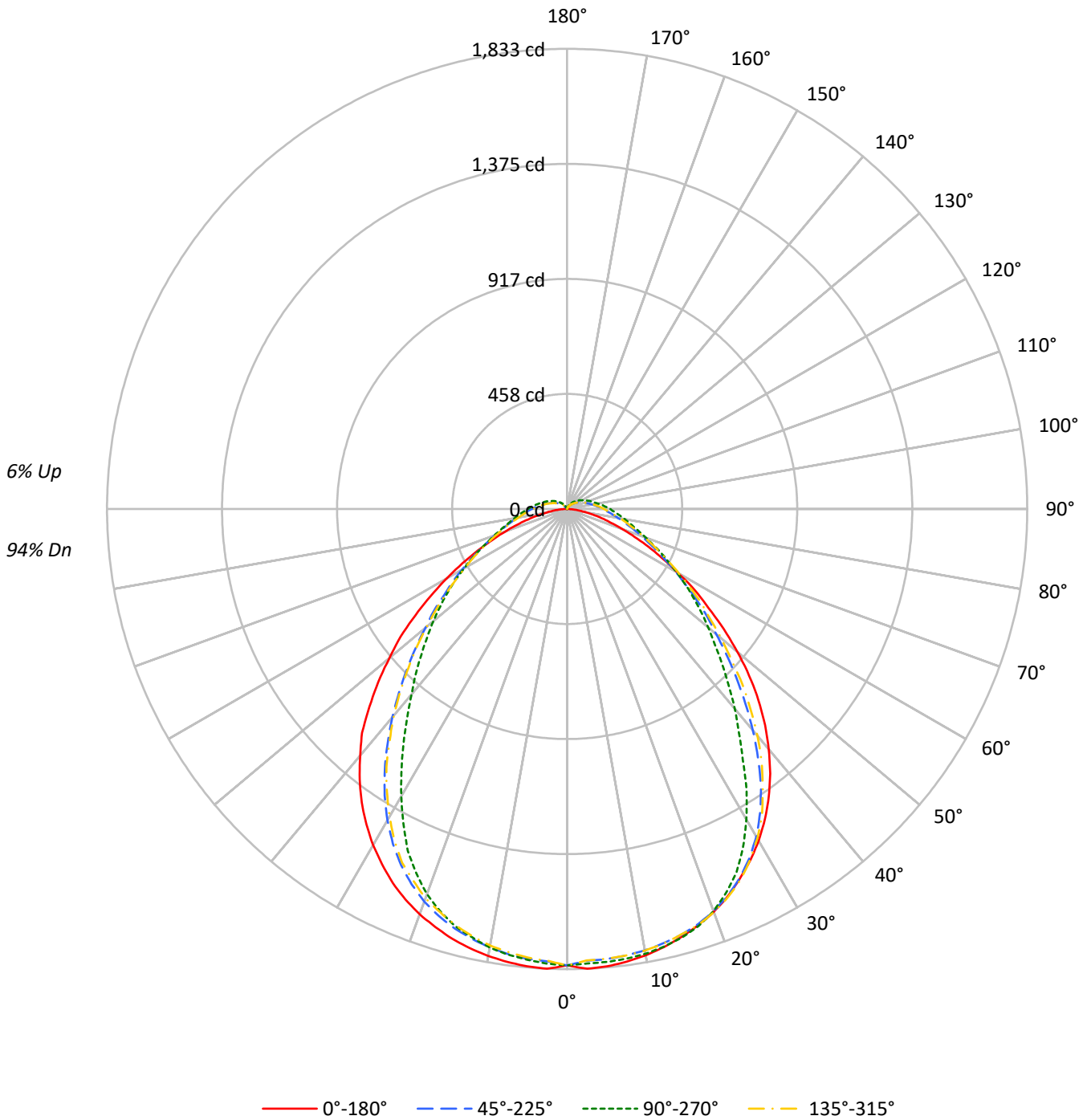
Lumens per Lamp: N/A
Luminaire Lumens: 4600.9 lumens
Efficiency: N/A
Efficacy: 124.3 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.14 / 1.24
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.12')
CIE Type: Direct

Input Watts (W): 37
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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Luminous Intensity Polar Plot





TEST NUMBER: P#

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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20	
RC	80					70					50					30					10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0	
RCR																						
0	118	118	118	118	114	114	114	114	108	108	108	102	102	102	96	96	96	94				
1	107	103	98	95	104	100	96	92	94	91	88	89	87	85	85	83	81	79				
2	98	90	84	78	95	88	82	77	83	78	74	79	75	72	75	72	69	67				
3	90	80	72	66	87	78	71	65	74	68	63	71	66	61	67	63	60	57				
4	83	72	63	57	80	70	62	56	67	60	55	64	58	53	61	56	52	50				
5	77	64	56	50	74	63	55	49	60	53	48	58	52	47	55	50	46	44				
6	71	58	50	44	69	57	49	43	55	48	42	52	46	42	50	45	41	39				
7	66	53	45	39	64	52	44	39	50	43	38	48	42	37	46	41	37	35				
8	62	49	41	35	60	48	40	35	46	39	34	44	38	34	43	37	33	31				
9	58	45	37	32	56	44	37	31	42	36	31	41	35	30	40	34	30	28				
10	54	42	34	29	53	41	34	29	39	33	28	38	32	28	37	31	27	26				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	14691	14691	14691	14691
5°	14796	14224	14796	14161
10°	14730	13846	14755	13653
15°	14635	13432	14702	13082
20°	14523	12900	14608	12355
25°	14290	12111	14448	11397
30°	13987	10951	14170	10139
35°	13515	9530	13776	8874
40°	12839	8335	13178	7733
45°	11946	7246	12334	6830
50°	10727	6367	11199	6046
55°	9279	5622	9953	5338
60°	7804	4936	8509	4652
65°	6398	4365	7043	4047
70°	5092	3873	5701	3582
75°	3999	3576	4502	3290
80°	2886	3451	3400	3153
85°	1776	3470	2391	3190



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.4	3.7
10°-20°	494.2	10.7
20°-30°	732.5	15.9
30°-40°	813.7	17.7
40°-50°	737.6	16.0
50°-60°	571.6	12.4
60°-70°	388.2	8.4
70°-80°	246.9	5.4
80°-90°	157.9	3.4
90°-100°	106.4	2.3
100°-110°	72.9	1.6
110°-120°	48.6	1.1
120°-130°	30.3	0.7
130°-140°	16.7	0.4
140°-150°	7.9	0.2
150°-160°	2.9	0.1
160°-170°	0.2	0.0
170°-180°	0.0	0.0
0°-30°	1399.0	30.4
0°-40°	2212.8	48.1
0°-60°	3522.0	76.6
0°-90°	4315.0	93.8
90°-120°	228.0	5.0
90°-150°	282.8	6.1
90°-180°	286.0	6.2
0°-180°	4600.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1818	1818	1818	1818	1818	
5°	1829	1811	1829	1803	1829	174
15°	1764	1767	1772	1721	1764	498
25°	1626	1596	1644	1502	1626	749
35°	1400	1220	1427	1136	1400	873
45°	1078	872	1113	822	1078	828
55°	688	613	738	582	688	619
65°	357	412	393	382	357	358
75°	143	275	161	253	143	154
85°	26	198	35	182	26	31
90°	0	171	2	156	0	2
95°	1	146	0	136	1	1
105°	1	107	0	101	1	1
115°	1	81	0	75	1	1
125°	1	60	1	53	1	1
135°	1	42	1	34	1	1
145°	1	27	1	19	1	1
155°	1	15	1	7	1	1
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-50HL-LN-UNV-L950-CD1-U

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1818	1818	1818	1818	1818	1818	1818	1818	1818	1818	1818
2.5°	1833	1831	1829	1826	1829	1837	1832	1821	1819	1801	1809
5°	1829	1826	1824	1821	1825	1835	1830	1820	1817	1800	1809
7.5°	1819	1817	1814	1814	1818	1828	1824	1813	1811	1794	1804
10°	1805	1804	1802	1802	1806	1818	1813	1803	1801	1785	1796
12.5°	1787	1788	1785	1785	1791	1803	1799	1788	1786	1772	1783
15°	1764	1765	1763	1764	1770	1784	1779	1769	1767	1756	1765
17.5°	1738	1739	1739	1738	1745	1759	1755	1746	1743	1734	1745
20°	1708	1708	1708	1708	1716	1730	1725	1718	1712	1705	1714
22.5°	1671	1670	1671	1674	1682	1693	1690	1682	1673	1669	1676
25°	1626	1629	1630	1633	1643	1652	1649	1641	1627	1624	1626
27.5°	1579	1581	1584	1583	1597	1606	1600	1593	1573	1570	1568
30°	1526	1529	1531	1530	1541	1551	1545	1536	1509	1507	1491
32.5°	1466	1469	1471	1471	1487	1491	1480	1467	1438	1431	1417
35°	1400	1403	1404	1404	1420	1419	1405	1387	1355	1346	1322
37.5°	1329	1331	1332	1338	1345	1339	1321	1298	1274	1249	1223
40°	1249	1252	1254	1258	1265	1258	1232	1204	1178	1150	1124
42.5°	1167	1176	1174	1173	1177	1158	1138	1106	1080	1051	1025
45°	1078	1077	1082	1084	1083	1067	1039	1010	984	954	932
47.5°	984	983	987	989	983	966	944	911	889	863	846
50°	885	885	891	885	882	865	847	814	797	774	764
52.5°	786	795	789	787	784	767	753	726	712	702	690
55°	688	698	694	691	690	676	663	643	634	627	620
57.5°	605	604	602	599	600	589	576	565	561	558	560
60°	509	517	514	515	516	514	503	496	497	498	501
62.5°	430	437	442	438	440	443	437	435	439	443	447
65°	357	364	369	368	374	380	379	381	390	395	400
67.5°	291	298	305	306	315	324	328	335	345	352	358
70°	234	240	248	253	265	277	284	298	304	314	318
72.5°	183	188	199	211	221	236	250	262	271	282	287
75°	143	145	157	171	185	202	217	230	242	253	261
77.5°	105	108	119	138	154	172	189	203	216	227	238
80°	73	79	91	110	128	148	164	180	194	205	216
82.5°	47	52	69	88	107	127	144	160	175	187	197
85°	26	33	50	70	89	109	127	143	158	169	179
87.5°	10	20	36	55	74	93	112	127	142	154	163
90°	0	12	27	46	65	84	102	118	132	143	153
92.5°	1	8	21	37	55	73	90	106	120	131	140
95°	1	6	17	32	48	65	81	96	109	120	129
97.5°	1	4	14	28	42	59	74	88	100	111	118
100°	1	4	12	24	38	53	67	81	92	101	109
102.5°	1	3	10	21	34	47	61	74	84	93	101
105°	1	3	9	18	30	43	55	67	78	86	93
107.5°	1	2	8	15	26	39	51	61	71	79	86
110°	1	2	7	14	23	35	46	56	65	73	79



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-50HL-LN-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1	2	6	13	21	31	42	51	60	67	73
115°	1	2	6	12	19	27	37	47	54	62	67
117.5°	1	2	5	10	18	25	34	42	50	57	62
120°	1	2	5	9	16	23	30	38	46	51	56
122.5°	1	2	4	9	14	21	27	34	41	47	52
125°	1	2	4	8	13	19	25	30	37	42	47
127.5°	1	2	4	7	12	17	23	28	33	38	42
130°	1	2	3	6	11	15	20	26	30	34	38
132.5°	1	2	3	6	9	13	18	23	27	31	34
135°	1	2	3	5	8	12	15	20	24	28	31
137.5°	1	2	3	5	7	10	13	17	21	24	28
140°	1	2	3	4	6	9	12	14	18	21	24
142.5°	1	2	3	4	6	8	10	12	15	18	21
145°	1	2	3	4	5	7	9	11	12	15	17
147.5°	1	2	3	4	4	6	8	9	11	12	14
150°	1	2	3	3	4	5	7	8	9	11	12
152.5°	1	2	3	3	4	5	6	7	8	9	10
155°	1	2	3	3	3	4	5	6	7	8	9
157.5°	2	2	2	3	3	4	4	5	6	6	7
160°	2	2	2	3	3	3	4	4	5	5	6
162.5°	0	0	0	0	0	0	0	0	0	0	0
165°	0	0	0	0	0	0	0	0	0	0	0
167.5°	0	0	0	0	0	0	0	0	0	0	0
170°	0	0	0	0	0	0	0	0	0	0	0
172.5°	0	0	0	0	0	0	0	0	0	0	0
175°	0	0	0	0	0	0	0	0	0	0	0
177.5°	0	0	0	0	0	0	0	0	0	0	0
180°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-50HL-LN-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1818	1818	1818	1818	1818	1818	1818	1818	1818	1818	1818
2.5°	1807	1810	1819	1819	1817	1815	1815	1812	1814	1818	1816
5°	1807	1810	1819	1819	1817	1815	1814	1811	1814	1818	1816
7.5°	1801	1805	1814	1814	1812	1811	1809	1807	1810	1814	1812
10°	1793	1797	1806	1806	1804	1804	1801	1799	1803	1806	1805
12.5°	1781	1786	1794	1793	1791	1792	1789	1785	1789	1792	1793
15°	1764	1770	1778	1776	1773	1775	1770	1767	1770	1776	1775
17.5°	1742	1746	1752	1752	1749	1747	1745	1742	1744	1748	1749
20°	1711	1716	1719	1716	1715	1712	1708	1705	1709	1715	1716
22.5°	1670	1671	1678	1671	1666	1665	1661	1655	1661	1666	1667
25°	1619	1624	1621	1609	1609	1601	1599	1596	1597	1606	1610
27.5°	1554	1556	1548	1538	1529	1524	1517	1518	1518	1530	1534
30°	1483	1472	1465	1449	1442	1430	1428	1428	1426	1432	1450
32.5°	1398	1383	1372	1357	1345	1333	1327	1330	1329	1344	1350
35°	1305	1296	1273	1254	1247	1229	1229	1220	1226	1243	1250
37.5°	1207	1193	1174	1153	1148	1134	1129	1124	1137	1140	1147
40°	1107	1094	1076	1056	1056	1039	1039	1039	1040	1046	1059
42.5°	1012	998	982	968	966	953	953	952	954	959	971
45°	920	909	892	885	886	872	875	872	876	881	885
47.5°	835	828	821	811	808	807	802	798	805	805	811
50°	756	752	748	742	743	739	733	733	738	739	743
52.5°	687	682	677	678	679	677	674	671	674	676	681
55°	618	614	619	617	619	617	615	613	618	615	620
57.5°	556	560	562	558	561	559	560	557	561	563	562
60°	499	505	502	503	507	505	501	504	508	509	508
62.5°	447	454	457	455	456	454	457	453	458	460	457
65°	400	408	410	410	410	408	411	412	414	414	412
67.5°	360	367	369	371	369	367	367	368	372	374	372
70°	324	331	332	332	333	335	331	333	336	337	336
72.5°	293	300	302	301	302	303	303	301	304	306	306
75°	268	272	274	274	275	276	276	275	277	278	279
77.5°	245	248	251	251	252	251	253	253	254	255	256
80°	222	226	228	229	231	232	232	232	233	234	234
82.5°	204	207	210	213	213	214	214	214	215	215	216
85°	186	190	193	195	196	197	197	198	198	198	199
87.5°	170	175	177	179	180	182	182	182	183	183	183
90°	159	164	166	168	169	170	170	171	171	172	172
92.5°	146	151	155	155	156	158	157	157	158	159	159
95°	136	140	143	144	145	145	145	146	145	146	146
97.5°	124	128	131	133	134	134	134	135	134	135	135
100°	114	118	121	122	124	124	124	124	124	124	125
102.5°	106	110	112	113	114	115	115	115	115	116	116
105°	98	102	104	105	106	107	107	107	108	108	107
107.5°	91	94	96	98	99	99	100	100	100	100	100
110°	84	87	90	92	92	93	93	94	94	93	94



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-50HL-LN-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	77	81	83	85	86	87	87	87	87	87	87
115°	71	75	77	79	80	81	81	81	81	81	81
117.5°	66	70	72	73	74	75	76	76	76	76	75
120°	61	64	66	68	69	70	70	70	70	70	70
122.5°	56	59	61	63	64	65	65	65	65	65	65
125°	51	54	56	58	59	60	60	60	60	60	60
127.5°	46	49	52	53	54	55	55	55	56	55	55
130°	41	44	47	48	49	50	51	51	51	51	50
132.5°	37	40	42	43	45	45	46	46	46	46	45
135°	34	36	38	39	41	41	41	42	42	41	40
137.5°	30	32	34	35	36	37	37	38	37	37	37
140°	28	29	31	32	33	33	33	34	34	33	33
142.5°	24	26	28	29	30	30	30	30	30	30	30
145°	20	23	24	26	26	27	27	27	27	27	26
147.5°	17	19	22	23	23	24	24	24	24	24	23
150°	13	15	18	20	20	21	21	21	21	20	20
152.5°	11	13	14	16	17	17	17	18	17	17	17
155°	10	11	12	13	14	15	15	15	15	14	14
157.5°	8	9	10	11	12	13	13	13	13	13	12
160°	6	7	8	8	9	10	11	10	10	10	10
162.5°	0	0	0	0	0	0	0	0	0	0	0
165°	0	0	0	0	0	0	0	0	0	0	0
167.5°	0	0	0	0	0	0	0	0	0	0	0
170°	0	0	0	0	0	0	0	0	0	0	0
172.5°	0	0	0	0	0	0	0	0	0	0	0
175°	0	0	0	0	0	0	0	0	0	0	0
177.5°	0	0	0	0	0	0	0	0	0	0	0
180°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-50HL-LN-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1818	1818	1818	1818	1818	1818	1818	1818	1818	1818	1818
2.5°	1814	1813	1816	1811	1796	1800	1798	1807	1809	1811	1820
5°	1814	1813	1815	1811	1795	1798	1796	1805	1807	1808	1817
7.5°	1810	1809	1812	1807	1790	1794	1791	1800	1801	1802	1810
10°	1802	1801	1803	1799	1782	1786	1782	1791	1791	1793	1799
12.5°	1790	1788	1792	1787	1768	1773	1771	1777	1778	1779	1785
15°	1773	1771	1774	1771	1754	1755	1752	1761	1762	1760	1766
17.5°	1748	1746	1752	1750	1733	1737	1736	1738	1741	1736	1744
20°	1717	1719	1721	1722	1709	1709	1708	1712	1715	1711	1717
22.5°	1671	1676	1682	1684	1675	1674	1680	1678	1681	1679	1683
25°	1613	1623	1629	1635	1630	1632	1641	1643	1643	1642	1646
27.5°	1541	1554	1565	1578	1573	1577	1592	1594	1598	1594	1602
30°	1455	1467	1488	1507	1509	1515	1536	1538	1549	1545	1548
32.5°	1369	1375	1399	1418	1430	1445	1468	1472	1487	1490	1490
35°	1261	1278	1300	1327	1342	1358	1389	1395	1417	1424	1432
37.5°	1170	1186	1200	1228	1255	1273	1298	1313	1336	1349	1359
40°	1073	1086	1101	1129	1152	1179	1204	1222	1251	1266	1279
42.5°	981	991	1007	1027	1051	1081	1105	1126	1157	1178	1193
45°	899	905	919	934	955	986	1009	1036	1061	1083	1101
47.5°	822	830	837	847	866	885	912	938	963	987	1005
50°	751	751	762	769	782	799	820	838	869	886	909
52.5°	682	686	692	696	706	717	734	749	775	791	813
55°	621	625	628	630	636	649	655	667	685	698	717
57.5°	563	565	568	569	570	578	583	586	604	617	633
60°	510	510	513	512	511	515	514	517	528	536	543
62.5°	460	460	461	459	458	458	454	457	460	461	466
65°	414	419	415	416	410	408	406	400	399	395	397
67.5°	373	377	373	373	368	364	359	349	346	338	336
70°	340	337	339	336	330	325	318	310	300	290	283
72.5°	308	308	306	303	300	290	282	273	261	248	238
75°	277	278	278	275	270	261	252	239	226	211	198
77.5°	255	255	255	250	245	237	226	212	198	180	165
80°	234	233	233	227	222	213	202	188	173	154	137
82.5°	217	216	214	209	202	193	182	167	151	134	113
85°	199	198	196	191	184	176	164	149	133	114	94
87.5°	183	182	179	176	168	159	147	133	116	98	78
90°	172	170	168	164	157	147	135	120	103	85	65
92.5°	159	158	155	151	145	135	123	109	92	75	56
95°	146	145	143	139	133	124	113	99	83	66	49
97.5°	134	134	131	128	121	114	103	90	75	60	44
100°	124	124	121	117	112	105	94	82	68	54	38
102.5°	115	114	112	108	103	96	86	75	62	48	34
105°	107	106	104	100	96	88	80	69	56	43	30
107.5°	99	98	97	93	88	81	73	62	51	39	27
110°	92	91	89	85	80	74	66	57	46	35	24



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-50HL-LN-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	86	85	83	79	75	68	61	51	42	32	21
115°	80	79	77	73	68	62	55	47	37	28	19
117.5°	74	73	71	68	63	57	50	42	33	26	17
120°	69	67	65	62	57	52	45	38	30	23	15
122.5°	64	62	60	57	52	47	40	34	28	21	14
125°	58	57	55	52	47	42	37	31	25	19	12
127.5°	53	52	50	46	42	38	33	28	22	16	11
130°	49	47	45	42	39	35	30	25	20	14	10
132.5°	44	42	40	38	35	31	27	22	18	13	9
135°	40	38	36	34	31	28	24	20	16	12	8
137.5°	35	34	33	31	28	25	22	17	14	11	7
140°	32	31	30	27	25	22	19	15	12	9	6
142.5°	29	28	26	24	22	20	16	14	11	8	6
145°	25	24	23	21	19	16	14	12	10	7	5
147.5°	23	22	20	18	16	14	13	11	8	6	4
150°	19	18	17	15	14	13	11	9	7	5	4
152.5°	16	15	14	14	12	11	9	8	6	5	3
155°	14	14	13	12	10	9	8	6	5	4	3
157.5°	12	11	10	10	9	8	6	5	4	4	3
160°	10	9	9	8	7	6	5	5	4	3	3
162.5°	0	0	0	0	0	0	0	0	0	0	0
165°	0	0	0	0	0	0	0	0	0	0	0
167.5°	0	0	0	0	0	0	0	0	0	0	0
170°	0	0	0	0	0	0	0	0	0	0	0
172.5°	0	0	0	0	0	0	0	0	0	0	0
175°	0	0	0	0	0	0	0	0	0	0	0
177.5°	0	0	0	0	0	0	0	0	0	0	0
180°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-50HL-LN-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°	185°	190°	195°	200°	205°	210°	215°
0°	1818	1818	1818	1818	1818	1818	1818	1818	1818	1818	1818
2.5°	1821	1810	1820	1833	1833	1831	1829	1833	1843	1839	1827
5°	1818	1807	1816	1829	1829	1826	1824	1827	1838	1833	1822
7.5°	1812	1802	1808	1820	1820	1817	1815	1819	1828	1823	1811
10°	1801	1790	1797	1808	1807	1805	1802	1807	1815	1808	1794
12.5°	1787	1776	1782	1792	1791	1787	1785	1788	1795	1791	1776
15°	1768	1757	1762	1772	1769	1766	1762	1763	1772	1765	1749
17.5°	1745	1733	1737	1746	1743	1740	1735	1736	1746	1736	1719
20°	1717	1704	1707	1718	1713	1708	1703	1703	1713	1702	1683
22.5°	1687	1674	1676	1684	1680	1671	1666	1669	1674	1660	1640
25°	1650	1633	1636	1644	1641	1629	1624	1626	1624	1613	1592
27.5°	1607	1589	1591	1596	1592	1581	1575	1576	1572	1558	1534
30°	1553	1544	1543	1546	1540	1529	1522	1520	1519	1499	1470
32.5°	1498	1490	1485	1489	1482	1471	1459	1459	1449	1430	1405
35°	1442	1429	1424	1427	1419	1405	1395	1390	1375	1351	1324
37.5°	1370	1361	1355	1358	1349	1339	1320	1315	1299	1266	1232
40°	1292	1285	1279	1282	1272	1257	1240	1232	1214	1177	1150
42.5°	1208	1205	1198	1209	1189	1174	1157	1144	1126	1086	1055
45°	1119	1126	1110	1113	1100	1087	1069	1050	1032	994	959
47.5°	1025	1030	1019	1021	1007	995	979	955	935	902	871
50°	928	926	926	924	913	898	882	860	840	810	784
52.5°	825	829	831	836	822	813	788	769	754	723	701
55°	726	740	736	738	722	715	695	680	658	640	626
57.5°	636	639	641	644	637	623	607	595	578	563	553
60°	549	549	550	555	548	536	524	515	503	494	488
62.5°	467	474	475	471	462	456	448	443	435	432	430
65°	391	391	391	393	388	384	379	378	381	377	379
67.5°	327	324	322	323	321	319	318	321	327	327	332
70°	272	266	262	262	262	263	266	272	282	286	293
72.5°	227	214	208	208	209	213	222	233	242	250	259
75°	184	171	162	161	163	169	182	192	207	218	229
77.5°	149	133	122	121	124	133	149	162	179	191	203
80°	119	101	92	86	91	102	120	136	152	168	183
82.5°	95	78	64	58	64	79	96	115	131	148	163
85°	75	57	41	35	42	58	77	96	114	131	146
87.5°	59	41	25	17	26	43	61	80	99	116	131
90°	46	29	14	2	15	31	49	67	86	103	118
92.5°	39	22	8	0	9	23	40	58	75	92	107
95°	33	18	6	0	6	18	33	49	66	83	98
97.5°	28	14	4	0	4	14	27	43	58	74	88
100°	24	12	3	0	3	11	23	37	52	67	80
102.5°	21	10	2	0	2	9	19	32	45	59	72
105°	18	8	2	0	1	7	16	28	40	53	65
107.5°	16	7	2	0	1	6	14	24	36	47	58
110°	14	6	2	0	1	4	12	21	31	42	53



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-50HL-LN-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°	185°	190°	195°	200°	205°	210°	215°
112.5°	12	5	1	0	0	3	10	18	27	38	47
115°	11	5	1	0	0	2	8	16	24	34	42
117.5°	10	4	1	0	1	2	7	14	21	29	38
120°	9	4	1	0	1	1	5	12	18	26	33
122.5°	8	4	1	0	1	1	4	10	16	23	29
125°	7	3	2	1	1	1	3	8	14	19	26
127.5°	7	3	2	1	1	1	2	7	11	17	23
130°	6	3	2	1	1	1	1	5	10	14	19
132.5°	5	3	2	1	1	1	1	3	7	12	16
135°	5	3	2	1	1	1	1	2	5	9	13
137.5°	4	2	2	1	1	1	1	1	4	7	10
140°	4	2	2	1	1	1	1	1	3	5	8
142.5°	3	2	2	1	1	1	1	1	2	4	6
145°	3	2	2	1	1	1	1	1	1	2	4
147.5°	3	3	2	1	1	1	1	1	1	2	3
150°	3	2	2	1	1	1	1	1	1	1	2
152.5°	3	2	2	1	1	1	1	1	1	1	2
155°	3	2	2	1	1	1	1	1	1	2	2
157.5°	3	2	2	1	1	1	1	1	1	1	2
160°	3	2	2	1	2	1	2	2	2	2	2
162.5°	0	0	0	0	0	0	0	0	0	0	0
165°	0	0	0	0	0	0	0	0	0	0	0
167.5°	0	0	0	0	0	0	0	0	0	0	0
170°	0	0	0	0	0	0	0	0	0	0	0
172.5°	0	0	0	0	0	0	0	0	0	0	0
175°	0	0	0	0	0	0	0	0	0	0	0
177.5°	0	0	0	0	0	0	0	0	0	0	0
180°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-50HL-LN-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	220°	225°	230°	235°	240°	245°	250°	255°	260°	265°	270°
0°	1818	1818	1818	1818	1818	1818	1818	1818	1818	1818	1818
2.5°	1823	1804	1814	1811	1815	1823	1822	1820	1820	1817	1813
5°	1817	1799	1808	1803	1808	1815	1814	1811	1813	1808	1803
7.5°	1805	1789	1797	1793	1797	1804	1801	1800	1802	1794	1791
10°	1791	1773	1782	1777	1782	1787	1785	1781	1785	1777	1774
12.5°	1769	1754	1760	1758	1761	1766	1762	1759	1761	1754	1748
15°	1745	1730	1735	1732	1734	1740	1733	1732	1730	1723	1721
17.5°	1714	1700	1705	1700	1703	1701	1700	1695	1695	1687	1681
20°	1676	1664	1661	1657	1661	1657	1651	1647	1646	1638	1633
22.5°	1632	1618	1620	1609	1610	1604	1594	1590	1586	1577	1570
25°	1579	1565	1555	1548	1539	1538	1525	1515	1514	1503	1502
27.5°	1519	1503	1495	1478	1467	1458	1447	1437	1432	1420	1412
30°	1450	1432	1412	1400	1383	1376	1357	1345	1341	1328	1322
32.5°	1372	1353	1337	1314	1295	1285	1266	1254	1249	1235	1227
35°	1287	1266	1247	1225	1210	1193	1170	1158	1147	1142	1136
37.5°	1198	1175	1153	1131	1118	1098	1078	1070	1057	1052	1046
40°	1106	1083	1062	1041	1026	1008	990	987	973	968	964
42.5°	1015	991	967	952	941	923	911	908	896	893	893
45°	933	903	883	870	861	846	836	834	824	822	822
47.5°	845	817	802	794	786	775	769	769	759	757	756
50°	763	737	726	718	717	709	704	702	702	695	696
52.5°	685	672	663	658	652	647	643	643	640	635	637
55°	613	598	599	595	592	589	590	584	583	579	582
57.5°	541	541	539	536	531	533	533	533	528	525	528
60°	480	483	478	481	479	480	478	478	475	474	475
62.5°	426	431	429	433	431	432	434	430	428	426	428
65°	378	384	383	386	387	388	389	387	385	383	382
67.5°	336	342	346	347	348	351	350	348	346	343	342
70°	298	306	311	313	317	315	315	314	312	309	308
72.5°	266	275	280	282	286	286	285	284	282	279	278
75°	238	246	253	257	260	260	259	258	256	254	253
77.5°	216	223	229	234	236	237	236	234	234	233	232
80°	194	202	208	213	216	216	215	216	214	213	212
82.5°	175	184	191	196	198	199	198	199	197	197	197
85°	158	167	175	179	182	183	183	183	182	182	182
87.5°	144	153	161	165	168	169	169	170	168	168	168
90°	131	140	148	152	155	157	157	158	157	156	156
92.5°	119	129	137	141	144	147	147	148	146	146	146
95°	109	119	126	131	134	136	137	137	136	136	136
97.5°	100	109	116	121	124	125	126	127	126	126	126
100°	91	100	107	111	115	116	117	118	118	117	117
102.5°	83	92	98	103	106	108	109	109	109	109	109
105°	75	84	90	95	98	100	101	102	102	101	101
107.5°	68	76	83	87	91	93	94	94	95	94	94
110°	61	70	76	80	84	86	87	88	88	88	88



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-50HL-LN-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	220°	225°	230°	235°	240°	245°	250°	255°	260°	265°	270°
112.5°	56	63	69	73	77	79	80	81	82	81	81
115°	50	57	63	67	70	72	74	75	75	76	75
117.5°	45	51	57	61	64	67	68	69	70	69	69
120°	40	46	51	55	58	61	62	63	64	63	63
122.5°	36	41	46	50	53	55	57	57	58	58	58
125°	32	37	41	45	48	50	51	52	52	53	53
127.5°	28	32	37	40	43	45	46	47	47	48	48
130°	24	28	32	35	38	40	41	42	43	43	43
132.5°	21	25	28	31	33	35	37	38	38	38	38
135°	17	21	24	27	29	31	32	34	34	34	34
137.5°	14	18	21	23	25	27	28	29	30	30	30
140°	11	14	17	20	22	23	25	25	26	26	26
142.5°	8	11	13	16	18	20	21	22	22	22	22
145°	6	8	10	12	15	16	17	18	19	19	19
147.5°	4	6	7	9	11	13	14	15	16	16	16
150°	3	4	6	7	8	10	12	12	13	13	12
152.5°	2	3	4	5	6	7	9	9	10	10	10
155°	2	2	2	3	4	5	6	7	7	7	7
157.5°	2	2	2	2	2	3	4	5	5	5	5
160°	2	2	1	1	2	2	2	2	3	3	3
162.5°	0	0	0	0	0	0	0	0	0	0	0
165°	0	0	0	0	0	0	0	0	0	0	0
167.5°	0	0	0	0	0	0	0	0	0	0	0
170°	0	0	0	0	0	0	0	0	0	0	0
172.5°	0	0	0	0	0	0	0	0	0	0	0
175°	0	0	0	0	0	0	0	0	0	0	0
177.5°	0	0	0	0	0	0	0	0	0	0	0
180°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-50HL-LN-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	275°	280°	285°	290°	295°	300°	305°	310°	315°	320°	325°
0°	1818	1818	1818	1818	1818	1818	1818	1818	1818	1818	1818
2.5°	1816	1818	1818	1816	1815	1819	1814	1795	1801	1803	1809
5°	1807	1809	1809	1809	1807	1811	1806	1787	1794	1797	1801
7.5°	1794	1795	1797	1796	1794	1800	1795	1776	1781	1786	1791
10°	1777	1777	1778	1780	1778	1783	1778	1761	1766	1769	1775
12.5°	1754	1756	1757	1756	1755	1759	1757	1741	1743	1749	1755
15°	1723	1723	1728	1726	1726	1730	1732	1714	1717	1726	1732
17.5°	1685	1686	1690	1692	1691	1698	1699	1685	1684	1695	1701
20°	1636	1638	1643	1647	1647	1655	1658	1649	1650	1662	1664
22.5°	1576	1576	1585	1591	1596	1601	1610	1602	1602	1618	1627
25°	1502	1509	1512	1524	1531	1545	1553	1554	1555	1570	1576
27.5°	1420	1422	1431	1445	1453	1466	1481	1484	1489	1509	1518
30°	1327	1333	1337	1357	1368	1385	1404	1411	1415	1442	1453
32.5°	1232	1234	1251	1262	1275	1293	1315	1328	1336	1364	1380
35°	1137	1141	1155	1169	1182	1200	1223	1241	1255	1280	1301
37.5°	1050	1060	1063	1077	1087	1105	1121	1147	1161	1187	1214
40°	972	975	977	991	998	1015	1038	1055	1074	1093	1125
42.5°	895	897	900	908	916	928	945	962	982	1010	1031
45°	824	826	828	833	840	851	862	874	894	918	940
47.5°	758	762	762	763	768	777	785	800	811	824	849
50°	695	698	699	699	702	708	710	720	730	742	760
52.5°	636	636	635	639	639	643	644	650	657	670	678
55°	580	580	583	581	581	583	582	583	589	597	604
57.5°	526	525	528	526	525	527	529	525	526	534	534
60°	472	473	476	474	474	474	472	470	468	473	475
62.5°	429	426	429	426	428	427	425	421	422	420	418
65°	384	384	385	382	384	384	381	380	374	372	367
67.5°	345	345	346	344	344	345	342	339	333	330	323
70°	311	311	311	310	310	310	308	304	298	293	284
72.5°	280	281	280	280	283	280	277	273	268	258	250
75°	255	256	255	255	255	254	253	247	241	233	221
77.5°	233	233	234	233	233	232	229	224	217	210	196
80°	212	213	214	215	213	212	209	205	196	188	174
82.5°	197	196	197	198	196	195	192	187	180	169	155
85°	182	181	181	182	181	179	176	171	164	153	139
87.5°	167	168	169	168	167	165	162	157	149	140	125
90°	156	156	156	156	155	153	150	144	137	126	113
92.5°	146	146	146	146	145	142	139	134	126	115	103
95°	136	137	136	136	134	133	128	123	116	105	92
97.5°	125	126	125	125	124	122	119	113	106	96	84
100°	117	117	116	116	115	113	109	104	97	87	75
102.5°	108	109	108	108	106	104	101	96	89	79	68
105°	101	101	100	100	98	96	93	87	81	72	61
107.5°	94	94	93	93	91	89	85	80	74	65	55
110°	87	87	87	86	84	81	78	73	67	59	49



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-50HL-LN-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	275°	280°	285°	290°	295°	300°	305°	310°	315°	320°	325°
112.5°	82	81	80	79	77	75	71	66	60	53	44
115°	75	75	74	73	71	68	65	61	55	47	39
117.5°	69	69	68	67	65	62	59	55	49	42	35
120°	63	63	62	61	59	56	54	49	44	37	31
122.5°	58	57	57	55	54	51	48	44	39	33	27
125°	52	52	51	50	49	46	43	39	34	29	24
127.5°	47	47	46	45	44	41	38	35	30	25	20
130°	42	42	41	40	39	36	34	30	26	22	17
132.5°	38	38	37	36	34	32	30	26	23	19	15
135°	34	33	33	32	30	28	26	23	19	16	12
137.5°	30	29	28	27	26	24	22	20	17	13	10
140°	26	25	25	24	22	21	19	16	14	11	8
142.5°	22	22	21	20	19	18	16	14	11	9	6
145°	19	18	18	17	16	14	13	11	9	7	5
147.5°	15	15	15	14	13	12	11	9	7	5	3
150°	12	12	12	11	10	9	8	7	5	3	2
152.5°	10	10	9	9	8	7	6	5	3	2	2
155°	7	7	7	6	6	5	4	3	2	2	2
157.5°	5	5	5	4	4	3	3	2	2	2	2
160°	3	3	3	3	2	2	2	2	2	2	2
162.5°	0	0	0	0	0	0	0	0	0	0	0
165°	0	0	0	0	0	0	0	0	0	0	0
167.5°	0	0	0	0	0	0	0	0	0	0	0
170°	0	0	0	0	0	0	0	0	0	0	0
172.5°	0	0	0	0	0	0	0	0	0	0	0
175°	0	0	0	0	0	0	0	0	0	0	0
177.5°	0	0	0	0	0	0	0	0	0	0	0
180°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-50HL-LN-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	330°	335°	340°	345°	350°	355°	360°
0°	1818	1818	1818	1818	1818	1818	1818
2.5°	1806	1805	1813	1813	1804	1818	1833
5°	1800	1799	1807	1807	1799	1813	1829
7.5°	1788	1789	1797	1799	1789	1802	1819
10°	1775	1774	1783	1785	1777	1789	1805
12.5°	1754	1754	1763	1766	1758	1772	1787
15°	1732	1732	1738	1743	1736	1749	1764
17.5°	1704	1703	1709	1715	1708	1722	1738
20°	1668	1668	1675	1682	1677	1690	1708
22.5°	1630	1626	1638	1643	1640	1653	1671
25°	1582	1581	1593	1600	1596	1610	1626
27.5°	1530	1529	1541	1550	1548	1561	1579
30°	1467	1472	1483	1498	1493	1507	1526
32.5°	1401	1406	1419	1435	1436	1447	1466
35°	1322	1335	1344	1365	1369	1380	1400
37.5°	1239	1254	1273	1289	1297	1306	1329
40°	1146	1168	1189	1208	1218	1227	1249
42.5°	1062	1079	1099	1118	1136	1144	1167
45°	967	987	1005	1028	1046	1055	1078
47.5°	874	894	918	934	953	962	984
50°	785	803	823	842	858	866	885
52.5°	697	716	735	747	764	770	786
55°	619	632	649	656	673	677	688
57.5°	544	553	559	571	583	592	605
60°	476	480	484	491	501	504	509
62.5°	415	414	422	424	425	435	430
65°	361	362	355	352	356	359	357
67.5°	316	310	304	297	291	294	291
70°	272	267	257	247	243	237	234
72.5°	237	225	215	202	195	188	183
75°	210	193	179	165	155	145	143
77.5°	182	166	150	135	120	109	105
80°	160	145	126	108	92	78	73
82.5°	140	124	105	86	68	53	47
85°	123	106	87	68	50	34	26
87.5°	110	91	72	54	35	19	10
90°	98	80	62	43	25	10	0
92.5°	87	70	52	35	19	6	1
95°	77	62	44	28	14	4	1
97.5°	69	54	38	23	11	3	1
100°	62	47	33	19	9	2	1
102.5°	55	42	28	16	7	1	1
105°	49	37	24	14	6	1	1
107.5°	44	33	21	12	4	1	1
110°	39	28	18	10	3	1	1



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-50HL-LN-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	330°	335°	340°	345°	350°	355°	360°
112.5°	35	25	16	8	2	1	1
115°	31	22	14	7	2	1	1
117.5°	27	19	12	5	1	1	1
120°	24	17	10	4	1	1	1
122.5°	21	14	8	3	1	1	1
125°	18	12	7	2	1	1	1
127.5°	15	10	5	2	1	1	1
130°	13	8	4	1	1	1	1
132.5°	11	6	3	1	1	1	1
135°	9	5	2	1	1	1	1
137.5°	7	4	2	1	1	1	1
140°	5	3	1	1	1	1	1
142.5°	4	2	1	1	1	1	1
145°	3	2	1	1	1	1	1
147.5°	2	2	2	2	1	1	1
150°	2	2	1	1	2	1	1
152.5°	2	1	1	1	2	1	1
155°	2	2	2	2	2	2	1
157.5°	2	2	2	2	2	2	2
160°	2	2	2	2	2	2	2
162.5°	0	0	0	0	0	0	0
165°	0	0	0	0	0	0	0
167.5°	0	0	0	0	0	0	0
170°	0	0	0	0	0	0	0
172.5°	0	0	0	0	0	0	0
175°	0	0	0	0	0	0	0
177.5°	0	0	0	0	0	0	0
180°	0	0	0	0	0	0	0

(END OF REPORT)