

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: FAIL-SAFE

Report Number: P24518

Luminaire Tested: **MPR3-G-LD3-UNV-XX/XX/LO-ED3C-S68I/OL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P24518
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: MPR3-G-LD3-UNV-XX/XX/LO-ED3C-S68I/OL
Description: METALUX MPR3 2X4 AMBIENT/EXAM/READING LIGHT
Light Source: (4) 3500K LED LIGHT STRIPS
1UT217049835
Ballast/Driver: (2) 48W ADVANCE ELECTRONIC DRIVERS
LEDINTA2000C24DOM

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3515.5 lumens
Efficiency: N/A
Efficacy: 51.2 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.14 / 1.22
Luminous Opening: Rectangular w/ Sides (W: 1.35' x L: 1.88' x H: 0.1')
CIE Type: Direct

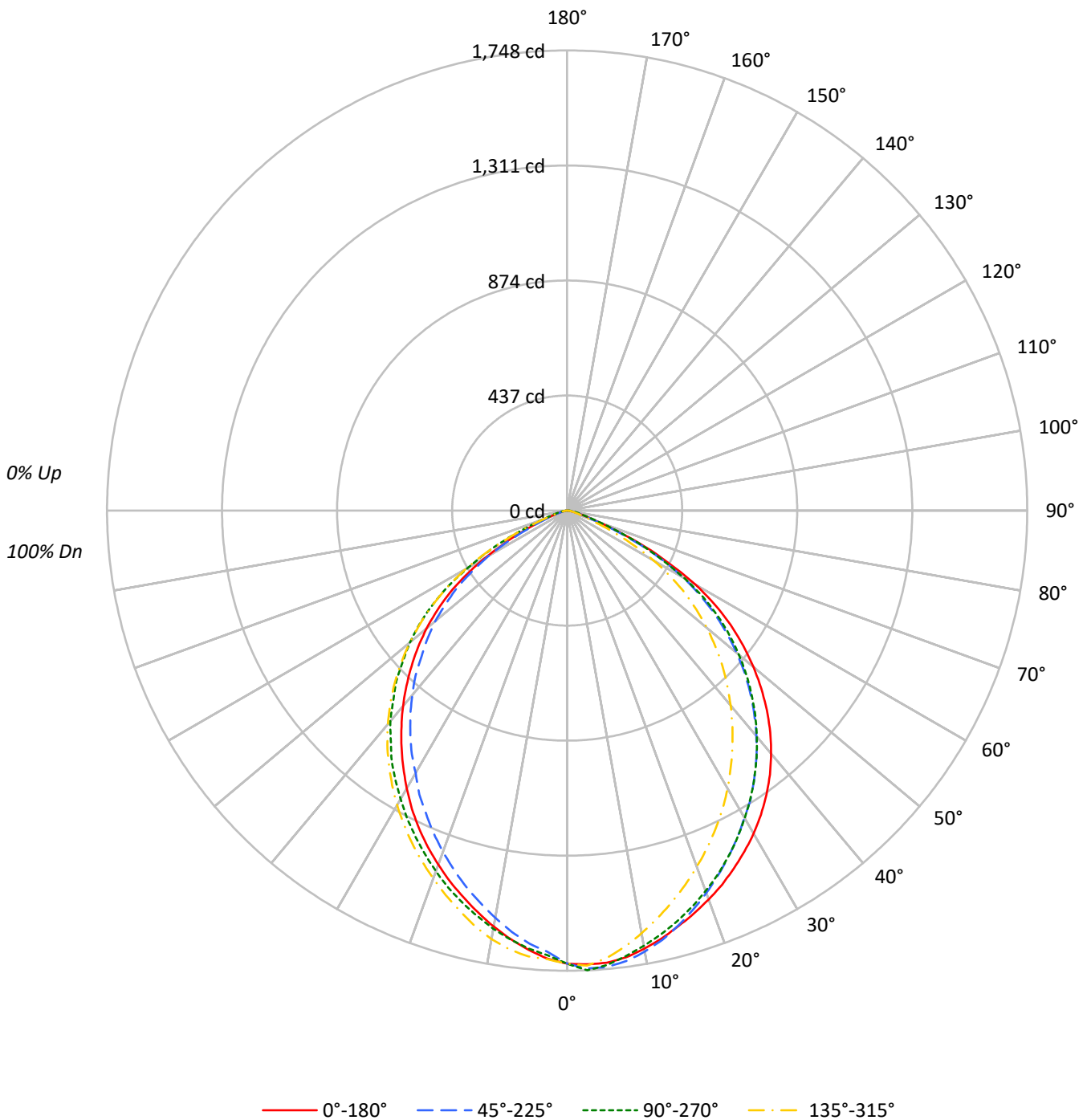
Input Watts (W): 68.6
Input Voltage (V): 120.05
Input Current (A_{in}): 0.573
Voltage Rise (V): NR
Power Factor: 0.9989
Total Harmonic Distortion (THDi): 7.16%
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: 5 HR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88					88			
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77					77			
3	95	85	78	73	92	84	77	72	81	76	71	78	74	70	76	72	69	67					67			
4	87	77	69	63	85	75	68	63	73	67	62	71	65	61	69	64	60	58					58			
5	81	69	61	55	79	68	61	55	66	59	54	64	58	54	62	57	53	51					51			
6	75	63	55	49	73	62	54	49	60	53	48	58	52	48	57	52	47	45					45			
7	70	57	49	43	68	56	49	43	55	48	43	54	47	43	52	47	42	41					41			
8	65	52	45	39	64	52	44	39	51	44	39	49	43	39	48	43	38	37					37			
9	61	48	41	35	60	48	40	35	47	40	35	46	39	35	45	39	35	33					33			
10	57	45	37	32	56	44	37	32	43	37	32	42	36	32	42	36	32	30					30			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	7296	7296	7296	7296
5°	7302	7327	7095	7061
10°	7207	7135	6845	6854
15°	7070	6950	6581	6632
20°	6957	6757	6333	6405
25°	6842	6557	6079	6172
30°	6729	6334	5784	5939
35°	6580	6102	5473	5718
40°	6383	5842	5138	5446
45°	6107	5538	4758	5125
50°	5730	5165	4322	4728
55°	5206	4673	3736	4172
60°	4370	3864	2779	3262
65°	2971	2736	1620	2148
70°	1341	1360	778	989
75°	669	758	437	552
80°	337	533	225	327
85°	121	369	91	158



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	160.5	4.6
10°-20°	441.6	12.6
20°-30°	637.8	18.1
30°-40°	728.3	20.7
40°-50°	700.2	19.9
50°-60°	542.8	15.4
60°-70°	246.4	7.0
70°-80°	49.2	1.4
80°-90°	8.7	0.2
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°-30°	1239.9	35.3
0°-40°	1968.2	56.0
0°-60°	3211.1	91.3
0°-90°	3515.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3515.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1721	1721	1721	1721	1721	
5°	1724	1733	1675	1670	1724	163
15°	1634	1615	1521	1541	1634	461
25°	1499	1450	1332	1365	1499	691
35°	1319	1240	1097	1162	1319	824
45°	1073	992	836	918	1073	826
55°	758	699	544	624	758	672
65°	330	316	180	248	330	327
75°	49	59	32	43	49	60
85°	4	14	3	6	4	6
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1721	1721	1721	1721	1721	1721	1721	1721	1721	1721	1721
2.5°	1725	1730	1732	1736	1740	1744	1746	1745	1741	1741	1744
5°	1724	1728	1731	1735	1739	1744	1746	1746	1741	1740	1743
7.5°	1712	1716	1719	1723	1730	1734	1735	1734	1729	1726	1729
10°	1690	1693	1697	1704	1707	1711	1712	1711	1704	1701	1704
12.5°	1664	1666	1670	1676	1678	1679	1683	1678	1673	1670	1674
15°	1634	1638	1641	1646	1646	1645	1646	1640	1634	1632	1636
17.5°	1604	1606	1611	1613	1610	1606	1607	1601	1593	1590	1594
20°	1572	1573	1576	1576	1571	1566	1565	1557	1549	1546	1550
22.5°	1538	1536	1539	1537	1529	1523	1521	1513	1505	1499	1503
25°	1499	1499	1500	1495	1486	1478	1475	1466	1456	1450	1454
27.5°	1459	1459	1457	1450	1439	1429	1426	1415	1405	1400	1403
30°	1417	1415	1412	1403	1389	1379	1375	1364	1353	1347	1351
32.5°	1370	1368	1363	1352	1336	1326	1321	1311	1298	1298	1296
35°	1319	1317	1310	1298	1281	1276	1266	1253	1241	1240	1237
37.5°	1265	1261	1252	1241	1229	1219	1208	1192	1182	1181	1177
40°	1205	1201	1191	1179	1167	1156	1144	1129	1120	1118	1116
42.5°	1142	1135	1124	1113	1100	1089	1077	1063	1055	1053	1051
45°	1073	1065	1055	1042	1030	1019	1007	994	987	985	983
47.5°	1000	992	981	968	956	946	935	923	916	915	913
50°	924	915	902	890	878	869	858	847	840	840	839
52.5°	843	832	820	808	797	788	777	768	761	763	761
55°	758	747	735	721	712	704	695	686	679	684	682
57.5°	666	653	644	630	622	615	607	601	593	598	598
60°	563	550	544	532	525	521	514	509	502	509	508
62.5°	443	430	424	415	415	415	411	409	413	411	409
65°	330	318	315	306	303	300	299	299	306	303	303
67.5°	213	205	206	202	202	201	196	192	187	197	198
70°	124	119	120	118	121	120	117	113	115	115	119
72.5°	77	73	74	73	73	73	71	70	72	72	74
75°	49	47	47	47	48	48	47	47	49	49	50
77.5°	31	30	30	30	31	32	32	32	34	34	35
80°	18	18	18	19	20	21	22	22	23	24	25
82.5°	9	9	10	11	12	13	14	15	16	17	17
85°	4	4	5	6	7	8	9	9	10	11	11
87.5°	1	2	3	4	4	5	6	6	7	7	7
90°	0	0	0	0	0	0	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1721	1721	1721	1721	1721	1721	1721	1721	1721	1721	1721
2.5°	1746	1748	1749	1748	1750	1751	1749	1748	1748	1748	1747
5°	1744	1744	1742	1740	1739	1738	1735	1733	1732	1730	1729
7.5°	1729	1728	1726	1723	1720	1716	1711	1707	1706	1702	1700
10°	1704	1703	1701	1698	1695	1691	1685	1679	1675	1669	1665
12.5°	1673	1673	1671	1669	1665	1662	1655	1648	1643	1638	1631
15°	1637	1637	1636	1634	1631	1628	1621	1615	1608	1601	1592
17.5°	1596	1599	1599	1598	1595	1591	1585	1578	1571	1562	1550
20°	1552	1555	1558	1559	1556	1552	1545	1538	1530	1518	1506
22.5°	1505	1509	1513	1515	1514	1510	1503	1496	1486	1473	1459
25°	1455	1459	1464	1467	1468	1466	1458	1450	1440	1424	1409
27.5°	1404	1408	1411	1416	1418	1416	1410	1401	1390	1373	1356
30°	1350	1354	1357	1362	1366	1364	1359	1349	1336	1318	1301
32.5°	1295	1298	1301	1305	1310	1310	1305	1296	1281	1262	1244
35°	1238	1240	1244	1246	1252	1254	1249	1240	1223	1203	1184
37.5°	1178	1180	1184	1186	1191	1195	1191	1182	1164	1142	1123
40°	1115	1117	1121	1122	1128	1133	1130	1121	1101	1080	1060
42.5°	1050	1052	1055	1057	1062	1069	1067	1058	1036	1015	994
45°	983	984	987	988	994	1001	1001	992	969	948	926
47.5°	912	914	916	917	924	932	933	924	899	878	857
50°	839	839	842	844	850	860	862	852	828	807	784
52.5°	761	762	764	766	774	784	788	777	754	733	710
55°	681	683	684	687	695	706	710	699	676	655	634
57.5°	596	600	599	602	609	619	625	613	591	571	551
60°	507	509	507	509	515	522	527	514	493	476	459
62.5°	407	408	403	413	408	415	421	410	392	375	358
65°	300	302	302	308	315	322	327	316	301	288	272
67.5°	202	211	213	216	219	220	222	213	203	196	186
70°	124	131	133	135	137	137	138	132	127	123	117
72.5°	76	80	83	89	88	89	89	86	83	80	76
75°	51	53	55	60	60	61	61	59	57	55	52
77.5°	36	37	40	41	42	43	43	43	41	39	37
80°	26	27	28	30	29	30	30	31	29	28	27
82.5°	18	19	20	20	20	21	22	21	20	20	19
85°	12	13	13	13	13	14	14	14	13	13	12
87.5°	8	8	8	9	9	8	9	9	8	8	8
90°	0	0	0	0	0	0	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1721	1721	1721	1721	1721	1721	1721	1721	1721	1721	1721
2.5°	1744	1742	1740	1737	1734	1730	1725	1720	1718	1721	1718
5°	1725	1723	1719	1715	1711	1707	1702	1695	1692	1693	1689
7.5°	1698	1692	1686	1681	1676	1672	1667	1662	1659	1662	1657
10°	1657	1654	1647	1639	1634	1630	1626	1620	1622	1622	1619
12.5°	1622	1613	1606	1597	1590	1586	1580	1575	1578	1578	1576
15°	1580	1569	1560	1551	1544	1539	1534	1528	1530	1531	1531
17.5°	1537	1525	1515	1504	1496	1491	1485	1481	1482	1484	1485
20°	1492	1478	1467	1454	1446	1440	1434	1430	1432	1434	1436
22.5°	1443	1429	1416	1404	1394	1388	1382	1375	1378	1380	1382
25°	1393	1377	1364	1351	1341	1334	1328	1321	1322	1325	1328
27.5°	1339	1323	1309	1296	1285	1278	1271	1265	1265	1268	1270
30°	1283	1265	1251	1237	1227	1219	1211	1204	1205	1206	1209
32.5°	1225	1207	1189	1176	1166	1157	1150	1140	1142	1142	1144
35°	1164	1146	1128	1113	1103	1094	1087	1083	1077	1077	1079
37.5°	1102	1085	1065	1050	1040	1031	1024	1019	1013	1012	1016
40°	1039	1021	1001	986	976	966	958	954	947	946	948
42.5°	973	954	934	920	913	900	892	887	880	878	880
45°	905	887	867	855	841	835	824	818	811	809	811
47.5°	835	817	797	785	777	763	754	749	741	739	740
50°	763	745	731	714	701	692	682	681	670	668	668
52.5°	689	675	654	640	628	619	612	605	597	594	595
55°	615	594	578	563	552	546	533	530	523	518	518
57.5°	534	513	495	483	475	464	453	450	441	437	437
60°	444	427	410	398	389	382	366	364	355	348	343
62.5°	345	327	315	307	294	287	274	271	260	256	256
65°	257	237	221	213	200	194	182	187	184	177	176
67.5°	176	160	145	132	123	119	116	116	118	114	112
70°	110	99	90	82	77	75	74	76	74	71	71
72.5°	71	64	59	55	52	51	50	49	48	48	48
75°	49	45	42	39	37	36	35	34	34	35	35
77.5°	35	32	30	29	27	26	25	24	23	22	23
80°	25	23	22	21	20	19	18	17	16	15	15
82.5°	18	17	16	15	14	13	13	12	11	10	9
85°	12	11	11	10	10	9	9	8	7	7	6
87.5°	8	8	7	7	7	6	6	5	5	4	4
90°	0	0	0	0	0	0	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°	185°	190°	195°	200°	205°	210°	215°
0°	1721	1721	1721	1721	1721	1721	1721	1721	1721	1721	1721
2.5°	1715	1713	1711	1704	1694	1687	1683	1684	1685	1683	1684
5°	1686	1683	1682	1675	1664	1658	1653	1655	1657	1655	1657
7.5°	1653	1650	1648	1642	1630	1623	1619	1621	1623	1619	1620
10°	1616	1612	1609	1605	1592	1585	1580	1585	1582	1578	1578
12.5°	1575	1572	1569	1564	1555	1544	1540	1543	1538	1533	1533
15°	1531	1530	1526	1521	1508	1502	1496	1497	1492	1486	1486
17.5°	1487	1487	1482	1478	1465	1458	1451	1451	1444	1438	1438
20°	1438	1440	1436	1431	1418	1410	1402	1401	1394	1387	1386
22.5°	1386	1389	1386	1383	1374	1361	1351	1349	1341	1333	1332
25°	1332	1337	1335	1332	1323	1308	1297	1294	1285	1277	1276
27.5°	1275	1281	1280	1277	1268	1250	1238	1235	1226	1217	1216
30°	1213	1219	1221	1218	1209	1190	1177	1174	1164	1156	1156
32.5°	1151	1156	1161	1158	1149	1128	1121	1112	1102	1095	1096
35°	1086	1093	1098	1097	1087	1067	1059	1049	1041	1039	1035
37.5°	1022	1028	1035	1034	1025	1004	996	985	976	976	974
40°	955	961	970	970	960	939	931	920	912	912	910
42.5°	886	893	903	903	894	873	864	853	845	846	845
45°	817	824	835	836	827	805	797	786	778	780	782
47.5°	747	755	766	768	759	737	728	718	711	714	713
50°	675	683	693	697	688	666	658	647	640	644	650
52.5°	600	608	619	622	613	591	583	573	569	572	571
55°	523	530	541	544	536	521	507	497	491	501	495
57.5°	437	442	452	454	448	434	423	416	411	408	416
60°	340	346	355	358	345	339	328	323	322	324	328
62.5°	255	259	267	268	256	253	244	238	231	236	235
65°	173	175	179	180	178	171	166	164	157	154	156
67.5°	109	110	112	112	111	106	103	101	101	101	98
70°	70	70	72	72	71	68	68	65	62	66	66
72.5°	48	47	47	48	47	45	44	44	42	44	40
75°	35	31	31	32	31	30	32	33	32	27	27
77.5°	22	21	20	20	19	20	19	18	18	17	17
80°	14	13	12	12	12	12	11	11	11	11	11
82.5°	9	8	7	7	6	6	7	6	6	7	7
85°	5	5	4	3	3	3	3	3	3	4	4
87.5°	3	3	2	2	1	2	2	2	2	2	2
90°	0	0	0	0	0	0	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	220°	225°	230°	235°	240°	245°	250°	255°	260°	265°	270°
0°	1721	1721	1721	1721	1721	1721	1721	1721	1721	1721	1721
2.5°	1681	1678	1675	1674	1675	1677	1682	1687	1690	1690	1691
5°	1654	1651	1648	1650	1651	1655	1660	1665	1667	1668	1670
7.5°	1617	1614	1611	1613	1616	1621	1627	1634	1637	1640	1644
10°	1574	1571	1569	1572	1575	1582	1591	1599	1605	1608	1613
12.5°	1529	1526	1529	1529	1534	1543	1552	1562	1568	1573	1578
15°	1482	1480	1484	1485	1490	1494	1509	1518	1527	1533	1541
17.5°	1435	1431	1435	1437	1444	1454	1466	1474	1485	1492	1502
20°	1382	1379	1384	1385	1391	1403	1415	1426	1438	1447	1458
22.5°	1329	1326	1331	1333	1340	1351	1363	1377	1389	1399	1412
25°	1272	1269	1275	1278	1284	1296	1309	1322	1338	1350	1365
27.5°	1214	1216	1216	1220	1228	1242	1254	1268	1286	1301	1317
30°	1153	1151	1159	1163	1172	1187	1200	1214	1233	1248	1265
32.5°	1093	1098	1101	1106	1117	1129	1142	1158	1178	1196	1214
35°	1032	1038	1042	1047	1058	1071	1087	1105	1125	1143	1162
37.5°	970	978	980	987	1003	1014	1024	1040	1061	1081	1100
40°	908	915	920	929	938	948	961	981	1003	1025	1045
42.5°	843	853	858	861	873	888	901	917	936	956	977
45°	780	782	790	799	811	818	831	851	874	896	918
47.5°	716	719	728	731	740	754	769	784	804	823	845
50°	641	654	656	663	674	680	696	716	738	758	780
52.5°	573	579	585	590	598	612	623	639	662	682	705
55°	493	509	509	517	522	534	550	565	585	609	624
57.5°	417	424	436	434	449	451	466	483	503	524	537
60°	326	345	347	353	358	365	374	388	406	424	434
62.5°	237	251	254	264	266	273	279	296	316	333	342
65°	160	163	165	174	181	190	201	215	230	242	248
67.5°	94	98	98	103	111	119	128	136	146	154	156
70°	66	63	62	63	66	71	77	83	90	95	96
72.5°	40	40	40	41	43	46	50	54	59	62	63
75°	27	27	28	28	30	32	34	36	39	42	43
77.5°	18	18	19	19	20	21	23	25	26	28	29
80°	12	12	13	13	13	14	15	16	17	19	19
82.5°	7	7	8	8	8	9	9	10	11	11	11
85°	4	4	4	4	5	5	5	5	6	6	6
87.5°	2	2	2	2	2	2	2	2	2	2	2
90°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P24518

CATALOG NUMBER: MPR3-G-LD3-UNV-XX/XX/LO-ED3C-S68I/OL

CANDELA DISTRIBUTION (continued):

	275°	280°	285°	290°	295°	300°	305°	310°	315°	320°	325°
0°	1721	1721	1721	1721	1721	1721	1721	1721	1721	1721	1721
2.5°	1689	1690	1692	1693	1694	1697	1701	1703	1706	1709	1712
5°	1670	1673	1678	1681	1684	1688	1692	1696	1700	1704	1709
7.5°	1646	1650	1655	1659	1662	1667	1671	1676	1681	1687	1692
10°	1615	1619	1625	1629	1630	1638	1643	1647	1653	1657	1662
12.5°	1581	1586	1592	1597	1601	1604	1608	1611	1617	1621	1626
15°	1545	1550	1556	1559	1559	1565	1567	1571	1574	1581	1586
17.5°	1505	1510	1515	1519	1518	1522	1524	1526	1532	1539	1545
20°	1461	1467	1473	1477	1474	1477	1478	1482	1487	1495	1502
22.5°	1417	1423	1429	1432	1431	1429	1431	1436	1442	1450	1457
25°	1371	1377	1382	1384	1382	1381	1383	1388	1394	1402	1415
27.5°	1324	1329	1333	1333	1332	1330	1333	1338	1344	1353	1367
30°	1274	1279	1284	1283	1280	1277	1280	1285	1292	1300	1316
32.5°	1223	1227	1228	1227	1224	1224	1226	1230	1237	1246	1262
35°	1172	1176	1176	1172	1166	1165	1169	1172	1180	1188	1205
37.5°	1110	1112	1110	1112	1111	1109	1108	1112	1122	1128	1146
40°	1056	1056	1050	1046	1044	1047	1046	1051	1059	1066	1083
42.5°	988	990	986	986	984	979	981	985	994	1001	1018
45°	929	927	918	914	914	912	913	918	927	932	950
47.5°	857	857	850	850	841	842	843	847	855	868	878
50°	791	789	779	773	768	769	770	773	780	786	803
52.5°	715	711	703	700	693	692	693	696	702	716	724
55°	635	633	628	617	614	613	614	617	622	627	643
57.5°	547	546	542	531	529	528	529	534	537	550	557
60°	444	443	442	435	436	437	439	445	446	460	466
62.5°	351	349	342	334	334	337	340	347	348	362	367
65°	255	256	255	250	247	242	239	244	244	257	261
67.5°	161	162	165	164	164	161	155	152	156	157	162
70°	99	99	100	98	98	96	92	89	91	91	94
72.5°	64	64	64	62	61	58	56	55	56	56	58
75°	43	43	42	41	40	38	37	36	37	37	37
77.5°	29	29	28	27	26	25	24	23	24	24	24
80°	19	19	18	18	17	16	16	16	15	15	15
82.5°	11	11	11	11	10	10	9	9	9	9	9
85°	6	6	6	5	5	5	5	4	4	4	4
87.5°	3	2	2	2	2	2	2	2	2	2	2
90°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P24518

CATALOG NUMBER: MPR3-G-LD3-UNV-XX/XX/LO-ED3C-S68I/OL

CANDELA DISTRIBUTION (continued):

	330°	335°	340°	345°	350°	355°	360°
0°	1721	1721	1721	1721	1721	1721	1721
2.5°	1716	1718	1721	1718	1721	1723	1725
5°	1713	1716	1718	1716	1718	1721	1724
7.5°	1697	1702	1706	1702	1705	1709	1712
10°	1672	1676	1681	1678	1681	1685	1690
12.5°	1637	1643	1649	1649	1653	1657	1664
15°	1599	1605	1614	1616	1623	1628	1634
17.5°	1559	1567	1578	1582	1592	1597	1604
20°	1517	1527	1538	1545	1556	1564	1572
22.5°	1473	1484	1497	1504	1518	1527	1538
25°	1428	1440	1454	1462	1477	1489	1499
27.5°	1380	1392	1407	1417	1437	1451	1459
30°	1330	1343	1359	1374	1391	1403	1417
32.5°	1277	1291	1307	1323	1342	1355	1370
35°	1220	1235	1253	1269	1289	1304	1319
37.5°	1161	1177	1195	1212	1232	1254	1265
40°	1099	1114	1132	1149	1170	1187	1205
42.5°	1033	1048	1066	1084	1104	1122	1142
45°	964	979	996	1014	1036	1053	1073
47.5°	892	907	923	941	962	980	1000
50°	815	830	846	864	885	903	924
52.5°	736	750	764	783	805	829	843
55°	654	667	679	698	720	735	758
57.5°	567	579	590	608	629	653	666
60°	474	486	494	510	530	541	563
62.5°	372	381	383	396	414	433	443
65°	263	272	278	291	307	323	330
67.5°	169	178	181	190	200	209	213
70°	99	104	105	111	116	121	124
72.5°	59	62	64	68	71	75	77
75°	38	39	41	43	46	48	49
77.5°	24	25	25	27	28	30	31
80°	15	15	15	16	17	17	18
82.5°	8	8	8	8	9	9	9
85°	4	4	4	4	4	4	4
87.5°	2	1	1	1	1	1	1
90°	0	0	0	0	0	0	0

(END OF REPORT)