

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: P140010

Luminaire Tested: **ENT-E02-LED-E1-SLL**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P140010
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33647)
Test Lab: INNOVATION CENTER-P3
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: ENT-E02-LED-E1-SLL
Description: ENTRI LED LUMINAIRE
(2) LIGHTBARS WITH AccuLED OPTICS - 90° SPILL LIGHT ELIMINATOR LEFT
Light Source: (42) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4869.2 lumens
Efficiency: N/A
Efficacy: 103.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 0.33' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G2

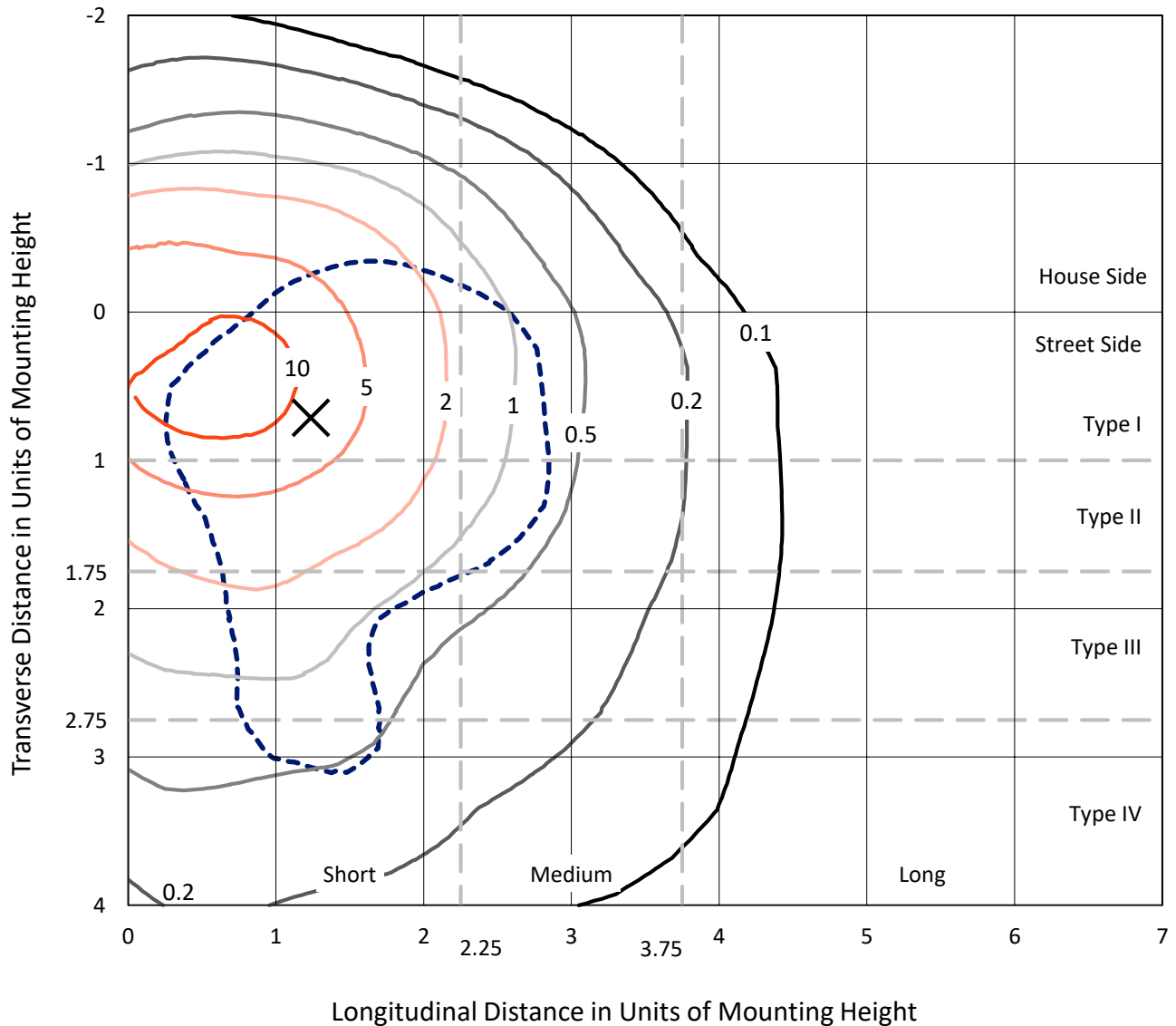
Input Watts (W): 46.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

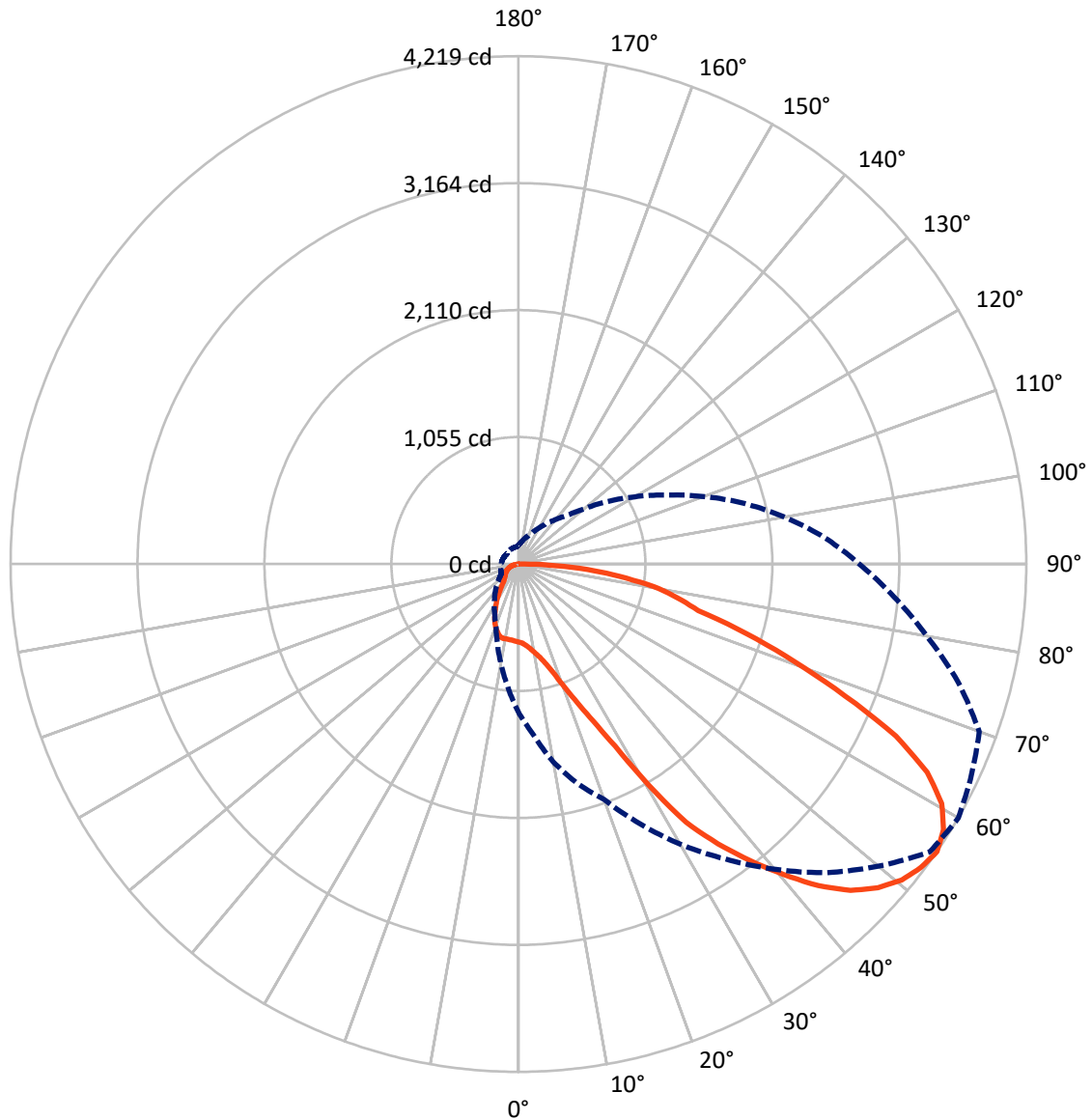
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 15.8 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 60-Deg Lateral - - - Horizontal Cone Through 55-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1217.0	0.0	1217.0
	% Fixture	25.0	0.0	25.0
Street Side	Lumens	3652.1	0.0	3652.1
	% Fixture	75.0	0.0	75.0
Total	Lumens	4869.2	0.0	4869.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.9	1.3
10°-20°	210.1	4.3
20°-30°	407.8	8.4
30°-40°	640.8	13.2
40°-50°	856.6	17.6
50°-60°	1005.0	20.6
60°-70°	953.5	19.6
70°-80°	575.5	11.8
80°-90°	155.9	3.2
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°-90°	4869.2	100.0
0°-180°	4869.2	100.0



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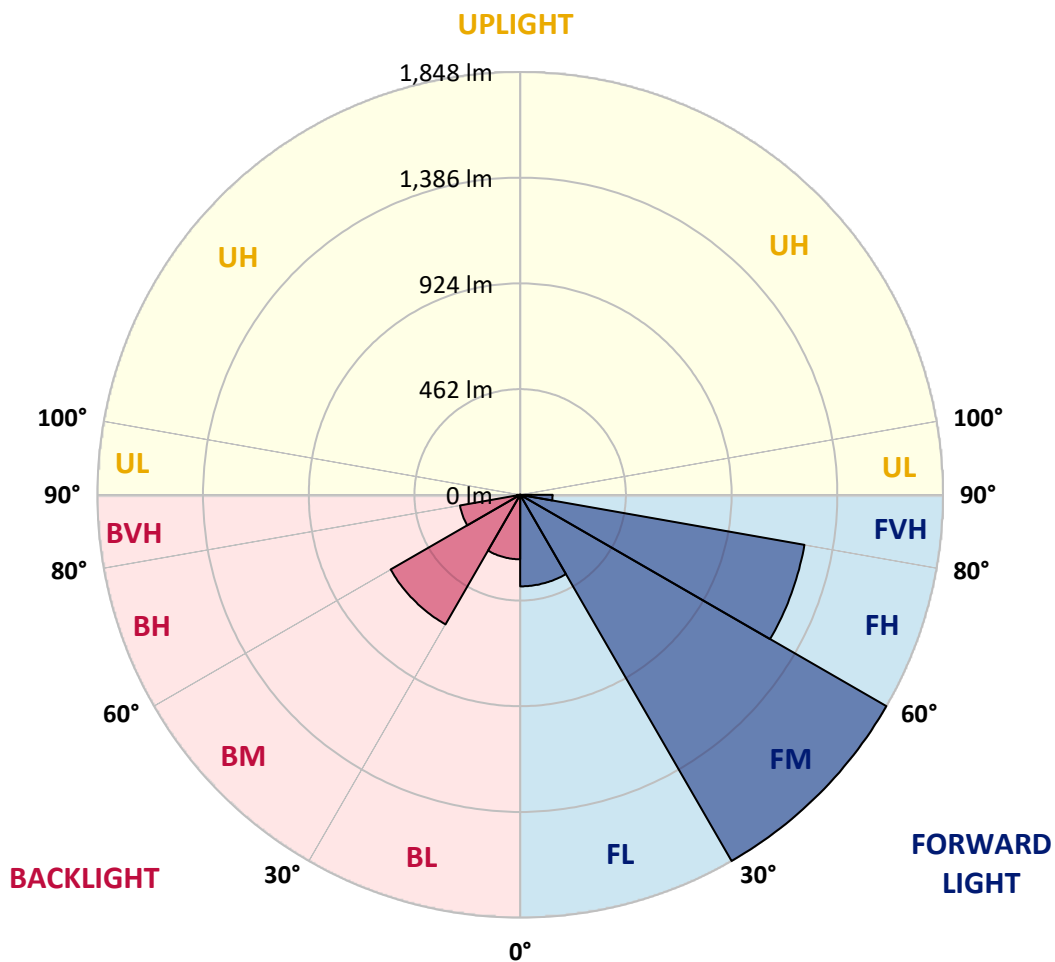
CATALOG NUMBER: ENT-E02-LED-E1-SLL

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	400.2	8.2			
FM (30°-60°)	1848.4	38.0			
FH (60°-80°)	1261.8	25.9			G1/1800
FVH (80°-90°)	141.8	2.9			G2/225
BL (0°-30°)	281.6	5.8	B1/500		
BM (30°-60°)	654.0	13.4	B1/1000		
BH (60°-80°)	267.2	5.5	B1/500		G1/500
BVH (80°-90°)	14.1	0.3			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°	45°	50°
0°	649	649	649	649	649	649	649	649	649	649	649
2.5°	663	662	663	662	662	662	663	662	659	659	660
5°	679	679	679	680	680	681	683	681	680	685	681
7.5°	698	698	701	702	705	705	709	708	712	715	712
10°	727	724	731	731	739	740	744	745	752	758	753
12.5°	769	771	783	785	795	795	795	799	804	808	803
15°	844	848	864	865	882	875	883	884	883	886	879
17.5°	941	952	975	980	988	1002	1002	1000	1005	1008	989
20°	1060	1079	1105	1115	1137	1161	1160	1156	1157	1149	1128
22.5°	1194	1237	1280	1296	1312	1342	1361	1355	1360	1342	1323
25°	1347	1417	1482	1506	1564	1617	1625	1621	1599	1582	1563
27.5°	1441	1533	1622	1683	1782	1867	1884	1912	1919	1933	1887
30°	1461	1576	1687	1780	1899	2000	2112	2195	2251	2295	2265
32.5°	1475	1605	1728	1845	1943	2090	2231	2354	2518	2578	2635
35°	1479	1628	1767	1899	2026	2172	2323	2458	2680	2858	2980
37.5°	1473	1645	1808	1969	2120	2281	2440	2572	2788	3018	3182
40°	1449	1639	1825	2006	2189	2388	2570	2713	2915	3187	3405
42.5°	1418	1614	1819	2018	2224	2458	2678	2852	3075	3350	3598
45°	1379	1583	1795	2005	2227	2487	2738	2961	3198	3504	3743
47.5°	1331	1539	1763	1976	2207	2488	2766	3021	3281	3610	3868
50°	1286	1493	1727	1937	2169	2463	2763	3048	3332	3672	3943
52.5°	1251	1454	1696	1906	2125	2422	2733	3035	3340	3680	3957
55°	1229	1422	1670	1885	2081	2378	2687	2990	3310	3627	3905
57.5°	1232	1416	1655	1881	2049	2340	2635	2926	3217	3519	3806
60°	1263	1429	1647	1853	2069	2344	2612	2855	3088	3366	3634
62.5°	1341	1484	1660	1872	2110	2382	2597	2745	2884	3162	3435
65°	1489	1613	1754	1940	2173	2435	2536	2566	2655	2920	3191
67.5°	1634	1781	1861	1980	2198	2450	2463	2334	2332	2590	2786
70°	1774	1987	2019	2085	2234	2434	2387	2138	2025	2060	2174
72.5°	1682	2001	2024	2044	2133	2319	2265	1929	1676	1631	1760
75°	1284	1689	1743	1708	1757	1899	1889	1626	1540	1570	1620
77.5°	924	1302	1419	1305	1292	1384	1358	1380	1543	1587	1575
80°	536	827	994	885	846	904	1006	1160	1338	1433	1451
82.5°	335	488	664	622	569	671	829	937	1025	1112	1117
85°	145	209	324	340	421	512	638	669	765	832	774
87.5°	5	5	78	116	206	370	501	448	454	398	371
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°	649	649	649	649	649	649	649	649	649	649	649
2.5°	660	658	659	656	656	657	657	654	654	654	653
5°	683	681	680	678	675	677	674	672	669	668	665
7.5°	713	710	709	704	700	698	696	689	686	684	680
10°	748	748	746	736	733	726	719	711	705	696	691
12.5°	793	796	789	780	773	759	746	735	723	710	702
15°	860	862	848	840	829	813	793	775	757	739	724
17.5°	959	956	936	928	909	882	855	831	804	779	760
20°	1102	1090	1038	1035	1011	973	934	899	863	831	799
22.5°	1276	1249	1211	1168	1122	1080	1034	985	940	900	865
25°	1503	1443	1408	1350	1310	1236	1172	1133	1072	1026	981
27.5°	1806	1711	1660	1597	1508	1456	1369	1294	1229	1153	1103
30°	2199	2129	2001	1913	1790	1664	1557	1459	1374	1283	1209
32.5°	2603	2559	2409	2245	2058	1873	1716	1595	1484	1382	1297
35°	2946	2855	2708	2536	2296	2082	1883	1729	1591	1464	1357
37.5°	3167	3127	2978	2783	2520	2289	2083	1901	1729	1563	1425
40°	3413	3390	3265	3026	2783	2500	2265	2073	1888	1690	1509
42.5°	3633	3654	3526	3316	3035	2716	2466	2253	2042	1840	1631
45°	3830	3868	3774	3579	3271	2922	2661	2429	2199	1978	1745
47.5°	3978	4019	3940	3787	3466	3094	2832	2572	2331	2077	1830
50°	4102	4126	4066	3932	3624	3261	2969	2696	2429	2155	1885
52.5°	4174	4188	4129	4032	3744	3385	3076	2782	2498	2209	1921
55°	4170	4219	4152	4074	3781	3444	3132	2831	2549	2244	1942
57.5°	4092	4164	4133	4036	3750	3440	3140	2859	2582	2256	1932
60°	3942	4041	4063	3925	3626	3330	3064	2827	2551	2203	1871
62.5°	3730	3810	3867	3679	3383	3102	2894	2707	2426	2046	1745
65°	3410	3447	3463	3289	2999	2812	2676	2515	2203	1823	1550
67.5°	2934	2929	2945	2864	2650	2552	2462	2287	1923	1568	1296
70°	2333	2437	2525	2439	2306	2208	2133	1926	1536	1211	985
72.5°	1899	1984	2032	1957	1828	1758	1659	1453	1081	861	676
75°	1604	1542	1571	1524	1405	1304	1247	1020	709	570	421
77.5°	1449	1350	1287	1186	1050	935	877	634	447	336	243
80°	1281	1144	980	817	700	629	589	362	246	195	140
82.5°	974	845	686	568	467	407	361	207	139	103	80
85°	624	575	525	467	391	314	242	151	102	59	44
87.5°	301	250	248	229	218	172	102	35	22	19	12
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°	649	649	649	649	649	649	649	649	649	649	649
2.5°	651	650	648	648	647	646	645	645	646	644	643
5°	662	661	658	657	656	654	654	653	653	651	650
7.5°	675	673	671	670	667	667	667	669	669	669	670
10°	688	683	681	681	680	681	684	686	689	691	693
12.5°	695	690	688	686	689	689	694	700	705	710	712
15°	713	704	700	695	695	695	700	705	711	717	718
17.5°	744	728	720	709	706	702	702	704	708	713	713
20°	775	759	746	734	726	715	707	700	697	699	699
22.5°	831	812	796	776	758	744	724	707	694	690	687
25°	932	905	878	848	828	802	774	746	720	702	686
27.5°	1044	1007	968	921	889	850	813	773	741	714	685
30°	1151	1082	1026	967	915	862	816	769	734	702	667
32.5°	1204	1122	1046	972	909	848	798	745	708	672	630
35°	1241	1143	1052	966	895	828	771	716	672	631	583
37.5°	1287	1164	1057	961	878	802	738	676	626	582	532
40°	1347	1196	1063	947	852	766	700	633	580	533	487
42.5°	1430	1240	1070	930	823	733	665	600	544	494	448
45°	1512	1291	1088	925	804	712	640	571	512	459	406
47.5°	1573	1329	1107	928	793	690	613	536	470	412	358
50°	1612	1353	1124	936	783	661	570	492	424	367	313
52.5°	1632	1360	1130	933	757	615	524	449	384	328	280
55°	1638	1353	1117	905	712	569	482	411	348	295	252
57.5°	1617	1323	1071	848	652	525	437	368	308	261	222
60°	1549	1254	990	759	585	466	378	310	261	220	193
62.5°	1425	1137	880	648	493	385	302	243	203	174	160
65°	1270	977	715	515	377	287	217	178	150	133	126
67.5°	1038	764	535	367	260	195	147	126	114	109	107
70°	747	530	354	238	169	133	107	98	93	93	94
72.5°	492	327	216	152	120	100	87	83	83	85	86
75°	288	190	133	111	95	84	77	74	74	75	75
77.5°	170	117	95	84	77	72	68	64	63	63	66
80°	105	83	74	67	62	58	54	54	54	53	55
82.5°	68	59	58	56	50	46	42	42	44	42	43
85°	41	39	38	38	36	34	31	31	34	33	29
87.5°	11	10	13	12	14	14	14	16	21	27	20
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°	649	649	649	649	649	649	649	649	649	649	649
2.5°	642	643	641	640	641	642	639	638	637	636	637
5°	649	649	646	644	644	643	640	639	635	634	637
7.5°	669	668	665	662	661	661	654	651	649	643	644
10°	692	692	693	689	684	683	675	670	667	662	660
12.5°	710	707	706	700	695	693	686	682	678	673	672
15°	716	710	706	699	693	689	683	679	674	671	669
17.5°	710	704	698	690	682	677	670	664	662	658	652
20°	697	690	683	673	664	657	649	644	638	632	620
22.5°	681	673	666	653	644	636	627	619	612	600	582
25°	670	653	641	623	613	603	599	591	581	560	538
27.5°	654	623	601	583	569	557	550	541	531	511	488
30°	627	591	570	551	535	522	509	492	479	456	440
32.5°	586	556	537	519	498	481	465	445	426	403	389
35°	540	513	489	470	448	431	414	391	373	352	339
37.5°	492	463	435	413	393	374	359	337	318	298	291
40°	449	416	386	364	342	323	307	284	268	254	246
42.5°	407	372	344	321	299	279	258	240	226	220	209
45°	360	324	297	272	254	233	217	205	196	191	184
47.5°	312	282	254	231	209	191	181	175	172	168	165
50°	273	247	219	197	177	164	159	156	154	152	151
52.5°	246	218	193	172	157	150	148	146	144	143	142
55°	225	197	174	156	145	143	142	140	138	138	136
57.5°	200	176	156	143	137	136	135	134	133	133	132
60°	174	156	143	134	132	130	128	126	125	127	128
62.5°	148	137	129	126	124	121	119	117	117	119	122
65°	123	119	117	115	114	113	111	109	109	109	111
67.5°	106	104	104	103	102	102	100	98	98	98	98
70°	93	94	94	94	93	92	91	89	88	86	84
72.5°	86	85	84	83	82	81	80	79	77	75	73
75°	77	75	72	71	70	68	68	67	65	62	60
77.5°	67	65	62	60	60	59	57	56	53	50	48
80°	54	51	48	47	46	45	44	43	42	39	38
82.5°	40	37	34	33	32	30	29	29	29	26	24
85°	26	22	19	16	16	15	13	11	9	6	4
87.5°	13	7	4	1	1	1	0	0	0	0	0
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°	649	649	649	649	649	649	649	649	649	649	649
2.5°	637	636	637	638	642	644	645	645	646	648	649
5°	637	631	631	633	635	638	639	639	640	643	646
7.5°	640	635	632	631	632	634	634	634	635	638	641
10°	653	645	640	634	630	629	628	628	630	634	637
12.5°	664	655	647	639	631	626	622	620	621	625	631
15°	663	650	641	629	620	613	607	605	606	609	616
17.5°	642	627	615	602	592	587	584	583	585	591	597
20°	607	587	578	571	562	559	553	553	552	552	555
22.5°	562	543	537	533	524	517	510	509	502	503	502
25°	518	496	490	485	474	464	456	451	443	442	439
27.5°	469	450	443	435	422	412	402	395	388	381	379
30°	419	402	395	388	373	364	350	340	334	324	319
32.5°	371	355	348	340	323	306	296	284	275	262	256
35°	323	307	296	291	274	256	247	231	220	209	207
37.5°	277	262	254	243	230	216	201	192	187	185	184
40°	234	223	215	208	196	186	179	177	177	177	178
42.5°	203	193	189	180	174	171	171	172	173	175	177
45°	178	170	167	164	164	163	165	167	170	173	175
47.5°	160	154	152	153	155	156	160	163	166	168	170
50°	147	142	140	141	143	146	149	153	156	158	159
52.5°	139	135	133	133	136	139	143	146	149	150	152
55°	133	130	127	128	131	133	135	137	139	140	144
57.5°	129	125	123	124	125	123	125	127	129	131	133
60°	124	121	118	116	114	114	115	117	121	124	127
62.5°	119	115	112	109	106	105	106	108	112	116	118
65°	110	105	102	101	100	99	100	102	106	109	112
67.5°	97	93	92	91	90	91	92	94	98	101	104
70°	82	81	80	80	80	81	82	86	89	93	94
72.5°	69	68	67	69	69	69	71	76	80	84	86
75°	58	58	57	56	58	58	60	64	67	70	71
77.5°	48	47	46	46	47	47	47	49	51	51	51
80°	37	35	34	33	32	30	30	31	31	31	33
82.5°	21	20	16	13	13	12	11	11	11	13	14
85°	3	2	1	1	1	1	1	1	1	2	2
87.5°	0	0	0	1	1	1	2	2	2	3	3
90°	0	0	0	0	0	0	0	0	0	0	0



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REPORT N
 CATALOG

CANDELA DISTRIBUTION (continued):

CANDELA

	275°	280°	285°	290°	295°	300°	305°	310°	315°	320°	325°	
0°	649	649	649	649	649	649	649	649	649	649	649	0°
2.5°	648	650	650	652	652	653	655	655	657	657	659	2.5°
5°	646	648	649	652	654	656	659	660	664	666	668	5°
7.5°	643	647	649	653	657	660	664	667	672	675	678	7.5°
10°	640	646	650	657	662	667	674	677	681	688	693	10°
12.5°	637	643	650	657	669	676	685	693	698	708	716	12.5°
15°	622	628	638	648	659	674	685	700	713	730	744	15°
17.5°	600	606	614	623	635	649	668	687	707	736	764	17.5°
20°	558	560	568	578	591	607	629	653	682	720	760	20°
22.5°	499	498	502	513	527	541	565	592	625	672	730	22.5°
25°	432	436	433	446	459	478	501	530	567	623	685	25°
27.5°	370	373	377	383	394	414	439	471	514	574	645	27.5°
30°	311	310	313	318	327	350	373	413	456	519	598	30°
32.5°	250	249	250	255	267	284	312	348	398	460	544	32.5°
35°	205	202	205	212	219	233	260	295	340	401	474	35°
37.5°	185	185	188	193	200	211	230	255	295	354	416	37.5°
40°	179	180	182	186	193	203	217	239	270	315	368	40°
42.5°	178	178	178	180	186	196	212	232	258	290	335	42.5°
45°	176	175	175	175	180	191	208	230	254	282	317	45°
47.5°	171	170	170	170	174	184	201	226	252	282	317	47.5°
50°	160	161	161	162	165	175	193	219	248	281	321	50°
52.5°	153	155	156	158	160	169	188	217	248	284	327	52.5°
55°	146	150	153	155	157	165	187	220	256	298	345	55°
57.5°	135	139	142	147	152	161	184	221	266	318	377	57.5°
60°	129	131	132	135	138	149	174	214	263	327	405	60°
62.5°	121	123	125	126	127	134	155	197	248	317	410	62.5°
65°	114	116	119	120	122	126	140	174	224	298	395	65°
67.5°	106	109	111	112	115	117	127	154	192	264	358	67.5°
70°	97	101	102	104	106	107	115	132	160	210	299	70°
72.5°	88	90	91	93	95	97	102	114	132	161	217	72.5°
75°	74	77	79	80	82	83	85	93	104	124	154	75°
77.5°	55	58	61	64	66	66	68	72	78	92	110	77.5°
80°	35	38	40	42	43	46	48	55	57	67	78	80°
82.5°	16	19	20	22	25	27	28	30	35	40	48	82.5°
85°	3	3	3	4	4	6	6	8	10	11	13	85°
87.5°	3	4	4	4	5	5	5	5	6	6	6	87.5°
90°	0	0	0	0	0	0	0	0	0	0	0	90°



NUMBER: P140010

NUMBER: ENT-E02-LED-E1-SLL

DISTRIBUTION (continued):

330°	335°	340°	345°	350°	355°	360°
649	649	649	649	649	649	649
660	659	661	663	662	668	663
671	670	673	675	676	680	679
682	683	688	689	692	697	698
695	700	706	708	713	719	727
721	728	736	742	752	764	769
757	774	787	799	814	828	844
789	822	850	875	899	921	941
804	856	900	946	992	1023	1060
790	863	931	1005	1075	1138	1194
760	850	951	1057	1163	1259	1347
732	842	959	1080	1206	1321	1441
695	815	943	1068	1205	1340	1461
640	762	897	1033	1185	1335	1475
575	697	835	978	1147	1316	1479
504	624	768	921	1096	1285	1473
444	551	700	866	1050	1246	1449
396	493	634	802	999	1201	1418
368	449	578	745	946	1154	1379
362	427	540	702	895	1104	1331
368	428	523	675	856	1059	1286
380	438	525	665	840	1032	1251
399	465	546	674	838	1021	1229
437	512	594	711	862	1033	1232
485	575	674	798	920	1073	1263
514	637	773	917	1042	1167	1341
511	663	855	1060	1216	1336	1489
478	644	835	1068	1303	1472	1634
399	554	777	1058	1347	1564	1774
318	455	668	933	1218	1440	1682
212	321	493	716	923	1116	1284
144	203	308	470	641	799	924
96	127	176	259	359	460	536
56	70	90	128	190	268	335
15	19	25	33	59	104	145
6	5	5	5	5	5	5
0	0	0	0	0	0	0

(END OF REPORT)