

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: 113P103

Luminaire Tested: **BI-232**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: 113P103
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BI-232
Description: Wall Bracket with Injection Molded Acrylic Lens
Light Source: Two-F32T8/35K - 2850 Lumens ea. - 32 Watts ea.
Ballast/Driver: Triad-Utrad B232I120RH Electronic

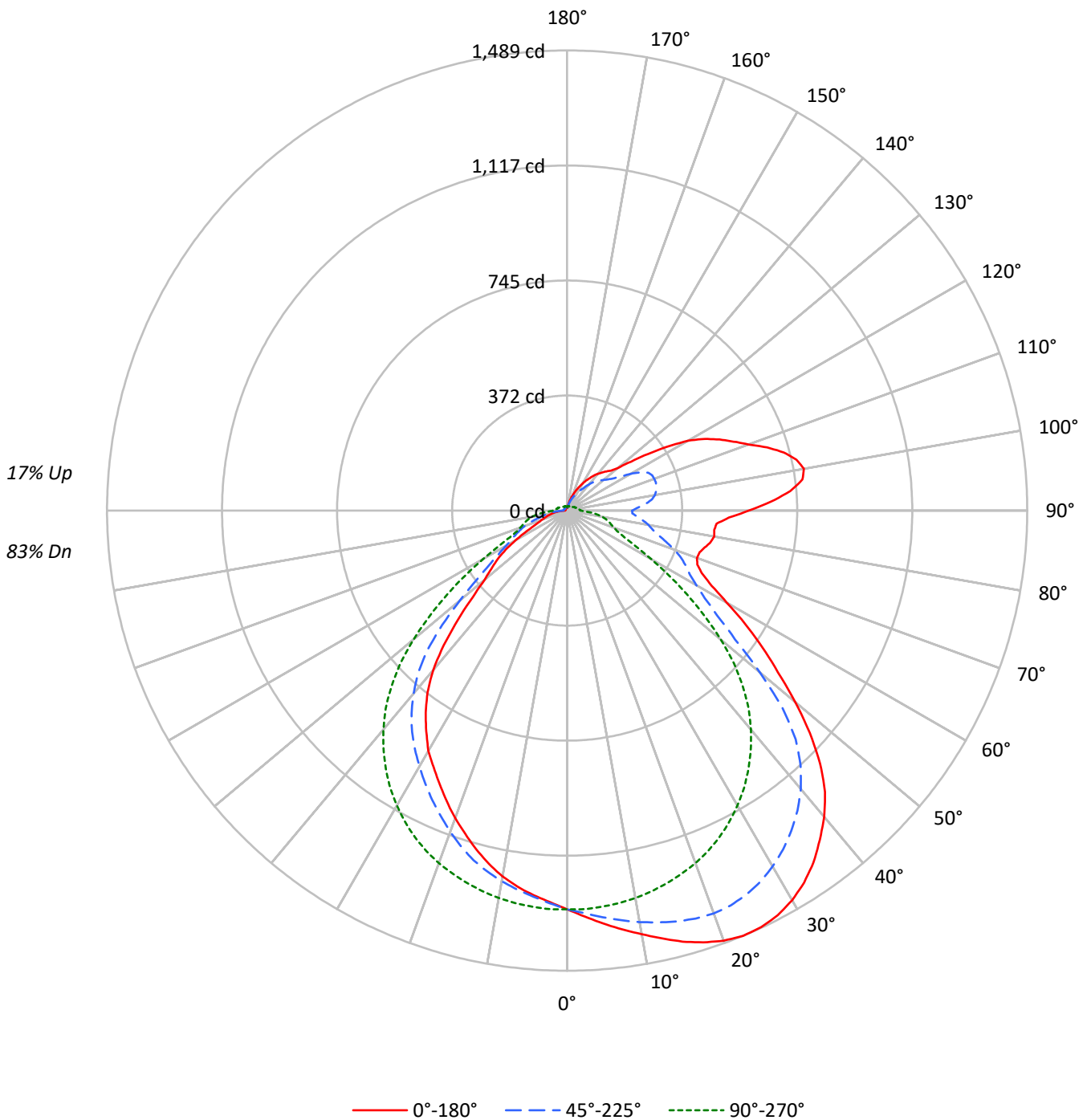
Summary

Lumens per Lamp: 2850 (2 lamps)
Luminaire Lumens: 4175.2 lumens
Efficiency: 73.2%
Efficacy: 71.6 lumens/watt
Spacing Criteria (0/90/45): 1.33 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 4.06' x L: 0.42' x H: 0.22')
CIE Type: Semi-Direct

Input Watts (W): 58.3
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





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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	0
RCR																		
0	84	84	84	84	81	81	81	81	74	74	74	69	69	69	63	63	63	61
1	76	73	70	67	73	70	67	65	65	62	60	60	58	56	55	54	52	50
2	70	64	59	55	67	61	57	53	57	53	50	53	50	47	49	46	44	42
3	64	57	51	46	61	54	49	45	50	46	43	47	43	40	43	41	38	36
4	59	50	44	39	56	49	43	39	45	40	37	42	38	35	39	36	33	31
5	54	45	39	34	52	44	38	33	41	36	32	38	34	31	35	32	29	27
6	50	41	35	30	48	39	34	29	37	32	28	34	30	27	32	29	26	24
7	46	37	31	27	44	36	30	26	34	29	25	32	27	24	30	26	23	21
8	43	34	28	24	41	33	27	23	31	26	22	29	25	22	27	23	21	19
9	40	31	25	21	39	30	25	21	28	24	20	27	23	19	25	21	19	17
10	38	29	23	19	36	28	23	19	26	22	18	25	21	18	23	20	17	16

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	8202	8202	8202
5°	8183	8176	7622
10°	8226	8142	7103
15°	8333	8098	6550
20°	8413	8057	6016
25°	8381	7980	5501
30°	8203	7847	5059
35°	7889	7645	4529
40°	7456	7346	3889
45°	6828	6860	2942
50°	5859	6042	2124
55°	4884	4869	1736
60°	3976	3641	1292
65°	3404	2751	856
70°	3402	2607	655
75°	3827	2843	540
80°	4446	3254	433
85°	5054	3567	240



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	45°	90°	135°	180°	Flux
0°-10°	122.9	2.9	2.2	0°	1290	1290	1290	1290	1290	
10°-20°	359.1	8.6	6.3	5°	1341	1321	1287	1254	1249	130
20°-30°	552.8	13.2	9.7	15°	1444	1376	1248	1171	1135	410
30°-40°	661.7	15.8	11.6	25°	1487	1371	1166	1033	976	685
40°-50°	629.4	15.1	11.0	35°	1390	1265	1022	875	798	867
50°-60°	446.7	10.7	7.8	45°	1158	1046	804	640	499	884
60°-70°	294.8	7.1	5.2	55°	771	592	473	308	274	691
70°-80°	217.6	5.2	3.8	65°	481	424	204	183	121	492
80°-90°	175.9	4.2	3.1	75°	461	305	139	100	65	489
90°-100°	190.2	4.6	3.3	85°	485	228	79	38	23	400
100°-110°	196.2	4.7	3.4	90°	587	210	43	13	6	323
110°-120°	147.0	3.5	2.6	95°	725	256	39	12	6	602
120°-130°	83.3	2.0	1.5	105°	726	300	31	11	6	759
130°-140°	48.3	1.2	0.8	115°	544	290	26	10	6	539
140°-150°	28.8	0.7	0.5	125°	319	181	21	10	6	293
150°-160°	14.1	0.3	0.2	135°	179	135	18	10	7	140
160°-170°	5.2	0.1	0.1	145°	128	85	16	10	8	82
170°-180°	1.1	0.0	0.0	155°	76	51	15	10	8	36
0°-30°	1034.8	24.8	18.2	165°	34	25	14	10	8	10
0°-40°	1696.5	40.6	29.8	175°	10	10	14	10	9	1
0°-60°	2772.6	66.4	48.6	180°	11	11	11	11	11	
0°-90°	3460.9	82.9	60.7							
90°-120°	533.4	12.8	9.4							
90°-150°	693.9	16.6	12.2							
90°-180°	714.0	17.1	12.5							
0°-180°	4175.2	100.0	73.2							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1290	1290	1290	1290	1290	1290	1290	1290	1290
2.5°	1315	1312	1304	1297	1291	1279	1272	1269	1268
5°	1341	1335	1321	1304	1287	1268	1254	1249	1249
7.5°	1367	1358	1337	1309	1281	1254	1237	1229	1228
10°	1392	1380	1352	1313	1273	1239	1218	1207	1202
12.5°	1418	1404	1365	1314	1262	1222	1196	1179	1171
15°	1444	1425	1376	1312	1248	1203	1171	1147	1135
17.5°	1465	1443	1384	1306	1232	1181	1140	1111	1097
20°	1481	1453	1387	1296	1214	1157	1106	1074	1059
22.5°	1489	1453	1383	1281	1192	1130	1069	1035	1018
25°	1487	1445	1371	1262	1166	1099	1033	995	976
27.5°	1476	1432	1354	1238	1136	1063	995	954	936
30°	1456	1410	1330	1208	1102	1023	956	916	898
32.5°	1427	1378	1300	1173	1065	979	916	874	848
35°	1390	1340	1265	1133	1022	932	875	826	798
37.5°	1343	1294	1224	1089	976	882	827	772	742
40°	1294	1243	1176	1039	925	827	773	713	675
42.5°	1235	1184	1118	983	869	766	714	644	591
45°	1158	1105	1046	920	804	700	640	562	499
47.5°	1065	1011	944	846	732	627	548	474	413
50°	963	900	813	756	650	546	453	400	349
52.5°	860	808	685	660	561	468	370	344	309
55°	771	742	592	585	473	411	308	305	274
57.5°	683	684	528	520	391	363	263	273	236
60°	597	621	482	455	313	315	228	240	194
62.5°	527	558	448	390	249	266	202	205	153
65°	481	502	424	331	204	218	183	167	121
67.5°	456	460	399	284	176	180	165	134	100
70°	447	434	368	250	161	153	146	108	86
72.5°	449	423	335	227	149	134	123	90	75
75°	461	417	305	210	139	120	100	76	65
77.5°	475	415	283	196	128	107	81	64	56
80°	483	417	267	184	116	94	66	53	47
82.5°	480	421	248	171	99	79	53	42	35
85°	485	428	228	153	79	61	38	30	23
87.5°	524	446	211	130	57	41	24	18	12
90°	587	478	210	113	43	26	13	8	6
92.5°	660	531	230	114	42	25	12	7	6
95°	725	599	256	113	39	24	12	7	6
97.5°	768	654	277	111	37	23	12	7	6
100°	778	677	288	109	34	22	11	7	6
102.5°	760	683	295	106	32	22	11	7	6
105°	726	668	300	103	31	21	11	7	6
107.5°	679	629	301	99	30	20	11	7	6
110°	625	577	300	95	29	20	11	7	6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	583	526	298	89	27	19	10	7	6
115°	544	483	290	83	26	18	10	7	6
117.5°	502	439	269	78	25	18	10	7	6
120°	452	381	238	73	23	17	10	7	6
122.5°	385	308	203	67	22	17	10	7	6
125°	319	257	181	63	21	16	10	7	6
127.5°	260	225	165	58	20	16	10	8	7
130°	213	200	154	54	19	15	10	8	7
132.5°	191	181	144	51	18	15	10	8	7
135°	179	168	135	49	18	15	10	8	7
137.5°	167	157	124	49	17	14	10	8	8
140°	155	144	111	48	16	14	10	8	8
142.5°	144	131	97	47	16	14	10	8	8
145°	128	117	85	44	16	14	10	8	8
147.5°	116	104	76	41	15	14	10	8	8
150°	102	91	66	38	15	13	10	9	8
152.5°	89	79	59	35	15	13	10	9	8
155°	76	69	51	31	15	13	10	9	8
157.5°	64	59	43	28	15	13	10	9	8
160°	53	49	37	24	14	13	10	9	8
162.5°	43	41	31	20	14	13	10	9	8
165°	34	32	25	17	14	13	10	9	8
167.5°	26	25	20	15	14	13	10	9	8
170°	20	18	15	13	14	12	10	9	8
172.5°	14	13	12	12	14	12	10	9	9
175°	10	10	10	12	14	12	10	9	9
177.5°	8	9	10	12	14	12	10	9	9
180°	11	11	11	11	11	11	11	11	11

(END OF REPORT)