

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: 8708.0

Luminaire Tested: **FMW X 2/132 277 89 FNL 1/2 ELB 1/L ELB**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: 8708.0
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FMW X 2/132 277 89 FNL 1/2 ELB 1/L ELB
Description: FAIL-SAFE 4'WALL MNT DIR/INDIRECT SECURITY LUMINAIRE
WHITE REFLECTOR w/.125 K19 ACRYLIC LENS
Light Source: 3/32W T8 2850 LUMENS
WATTS=81
F32T8/735/RS
Ballast/Driver: 2 ADVANCE #REL 3P32-RH-TP

Summary

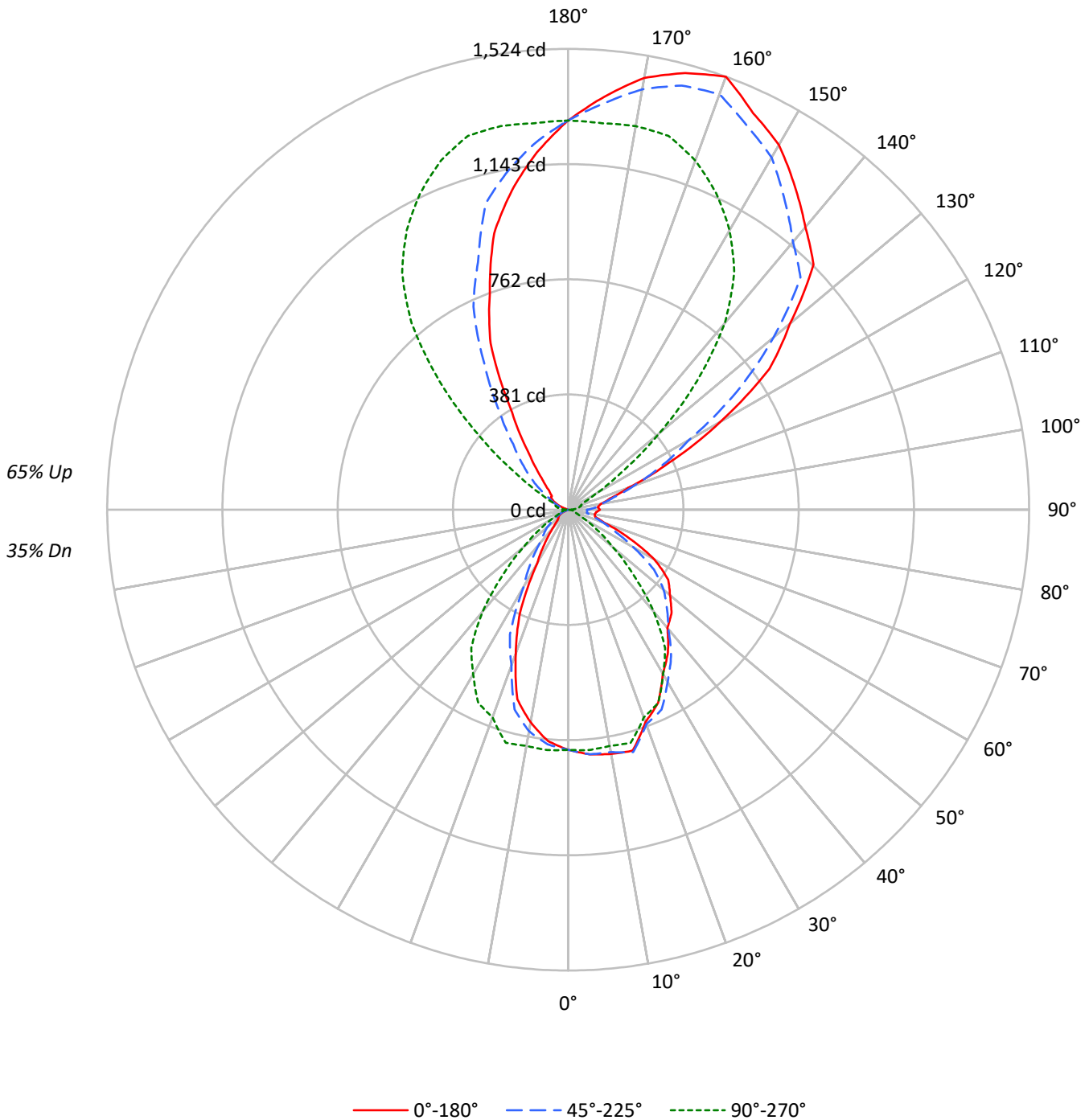
Lumens per Lamp: 2850 (3 lamps)
Luminaire Lumens: 3984.1 lumens
Efficiency: 46.6%
Efficacy: 49.2 lumens/watt
Spacing Criteria (0/90/45): 0.94 / 1.18 / 1.06
Luminous Opening: Rectangular w/ Sides (W: 3.92' x L: 0.28' x H: 0.09')
CIE Type: Semi-Indirect

Input Watts (W): 81
Input Voltage (V): NR
Input Current (A_{in}): 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									
RC	80									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	48	48	48	48	44	44	44	44	35	35	35	27	27	27	20	20	20	20	20	20	20	20	16														
1	44	42	41	39	40	38	37	36	31	30	29	24	23	23	18	17	17	18	17	17	18	17	17	14													
2	40	37	35	32	36	34	31	30	27	26	24	21	20	19	16	15	15	16	15	15	16	15	15	12													
3	37	33	30	27	33	30	27	25	24	22	21	19	18	17	14	13	13	14	13	13	14	13	13	11													
4	34	29	26	23	31	27	24	21	22	20	18	17	16	15	13	12	11	13	12	11	13	12	11	9													
5	31	26	23	20	28	24	21	19	20	17	16	16	14	13	12	11	10	16	14	13	12	11	10	8													
6	29	24	20	18	26	22	19	16	18	15	14	14	13	11	11	10	9	14	13	11	11	10	9	8													
7	27	21	18	15	24	20	17	14	16	14	12	13	11	10	10	9	8	13	11	10	10	9	8	7													
8	25	19	16	14	23	18	15	13	15	13	11	12	10	9	9	8	7	12	10	9	9	8	7	6													
9	23	18	14	12	21	16	13	11	14	11	10	11	9	8	9	8	7	11	9	8	9	8	7	6													
10	22	16	13	11	20	15	12	10	13	10	9	10	9	8	8	7	6	10	9	8	8	7	6	5													

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	7765	7765	7765
5°	7745	7817	7325
10°	7689	7841	6695
15°	7665	8028	6030
20°	6930	7542	4704
25°	6571	7512	3519
30°	5925	6995	1940
35°	5562	6552	1277
40°	5084	5506	758
45°	5006	4119	518
50°	4775	2869	457
55°	4661	1912	450
60°	4074	1164	372
65°	2978	726	202
70°	1892	617	0
75°	1546	694	0
80°	1730	744	0
85°	2163	528	0



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	45°	90°	135°	180°	Flux
0°-10°	75.2	1.9	0.9	0°	794	794	794	794	794	
10°-20°	208.6	5.2	2.4	5°	812	812	798	779	768	78
20°-30°	271.0	6.8	3.2	15°	825	830	798	684	649	227
30°-40°	261.9	6.6	3.1	25°	704	730	704	455	377	320
40°-50°	221.4	5.6	2.6	35°	575	593	558	217	132	358
50°-60°	167.1	4.2	2.0	45°	483	461	305	114	50	370
60°-70°	92.3	2.3	1.1	55°	404	346	116	58	39	353
70°-80°	44.6	1.1	0.5	65°	221	170	33	23	15	222
80°-90°	36.7	0.9	0.4	75°	92	81	20	0	0	106
90°-100°	46.9	1.2	0.5	85°	93	63	6	0	0	76
100°-110°	81.7	2.1	1.0	90°	105	62	0	0	0	55
110°-120°	175.4	4.4	2.1	95°	98	93	20	3	3	86
120°-130°	333.6	8.4	3.9	105°	143	154	41	4	3	160
130°-140°	477.9	12.0	5.6	115°	367	337	58	49	36	377
140°-150°	523.7	13.1	6.1	125°	812	680	211	105	70	706
150°-160°	494.2	12.4	5.8	135°	1147	1086	602	213	90	863
160°-170°	349.5	8.8	4.1	145°	1306	1248	957	396	224	819
170°-180°	122.3	3.1	1.4	155°	1447	1400	1156	741	607	671
0°-30°	554.8	13.9	6.5	165°	1495	1452	1280	1050	946	424
0°-40°	816.8	20.5	9.6	175°	1371	1349	1283	1220	1186	133
0°-60°	1205.3	30.3	14.1	180°	1287	1287	1287	1287	1287	
0°-90°	1379.0	34.6	16.1							
90°-120°	304.0	7.6	3.6							
90°-150°	1639.2	41.1	19.2							
90°-180°	2605.0	65.4	30.5							
0°-180°	3984.1	100.0	46.6							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	794	794	794	794	794	794	794	794	794
5°	812	814	812	800	798	787	779	773	768
10°	820	819	814	809	793	763	744	715	714
15°	825	822	830	819	798	741	684	647	649
20°	747	757	755	757	731	630	548	509	507
25°	704	711	730	733	704	553	455	383	377
30°	626	633	657	669	628	421	294	217	205
35°	575	579	593	618	558	310	217	138	132
40°	510	513	515	537	440	222	147	82	76
45°	483	472	461	456	305	147	114	57	50
50°	439	432	412	369	194	100	90	44	42
55°	404	396	346	267	116	65	58	39	39
60°	329	310	249	173	62	42	38	33	30
65°	221	219	170	106	33	33	23	19	15
70°	127	146	120	70	23	27	9	1	0
75°	92	105	81	50	20	9	0	0	0
80°	89	109	63	39	15	0	0	0	0
85°	93	112	63	36	6	0	0	0	0
90°	105	116	62	49	0	0	0	0	0
95°	98	100	93	66	20	3	3	3	3
100°	109	119	111	82	33	14	3	3	3
105°	143	154	154	124	41	36	4	4	3
110°	211	229	230	162	47	54	30	15	6
115°	367	383	337	227	58	79	49	47	36
120°	580	575	461	332	105	114	68	66	55
125°	812	787	680	513	211	165	105	76	70
130°	957	948	886	752	392	227	157	89	70
135°	1147	1134	1086	967	602	305	213	117	90
140°	1220	1212	1156	1062	805	413	283	167	136
145°	1306	1298	1248	1161	957	583	396	275	224
150°	1393	1385	1345	1253	1067	738	553	429	370
155°	1447	1447	1400	1306	1156	913	741	655	607
160°	1524	1509	1462	1366	1229	1034	871	774	758
165°	1495	1489	1452	1382	1280	1150	1050	965	946
170°	1450	1450	1412	1365	1288	1210	1139	1099	1072
175°	1371	1369	1349	1314	1283	1245	1220	1194	1186
180°	1287	1287	1287	1287	1287	1287	1287	1287	1287

(END OF REPORT)