

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: P30110

Luminaire Tested: **CRL-24-417-UNV-IK12**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P30110
Test Lab: METALUX RESEARCH LABS
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: CRL-24-417-UNV-IK12
Description: FAILSAFE TRISEAL CRL SERIES 2x2 4L T8
Light Source: (4) DOUBLE ENDED T8 2 FOOT LINEAR FLUORESCENT LAMPS
F17W T8 17 WATTS
Ballast/Driver: (2) GE PROLINE T8
GE 232-MNV

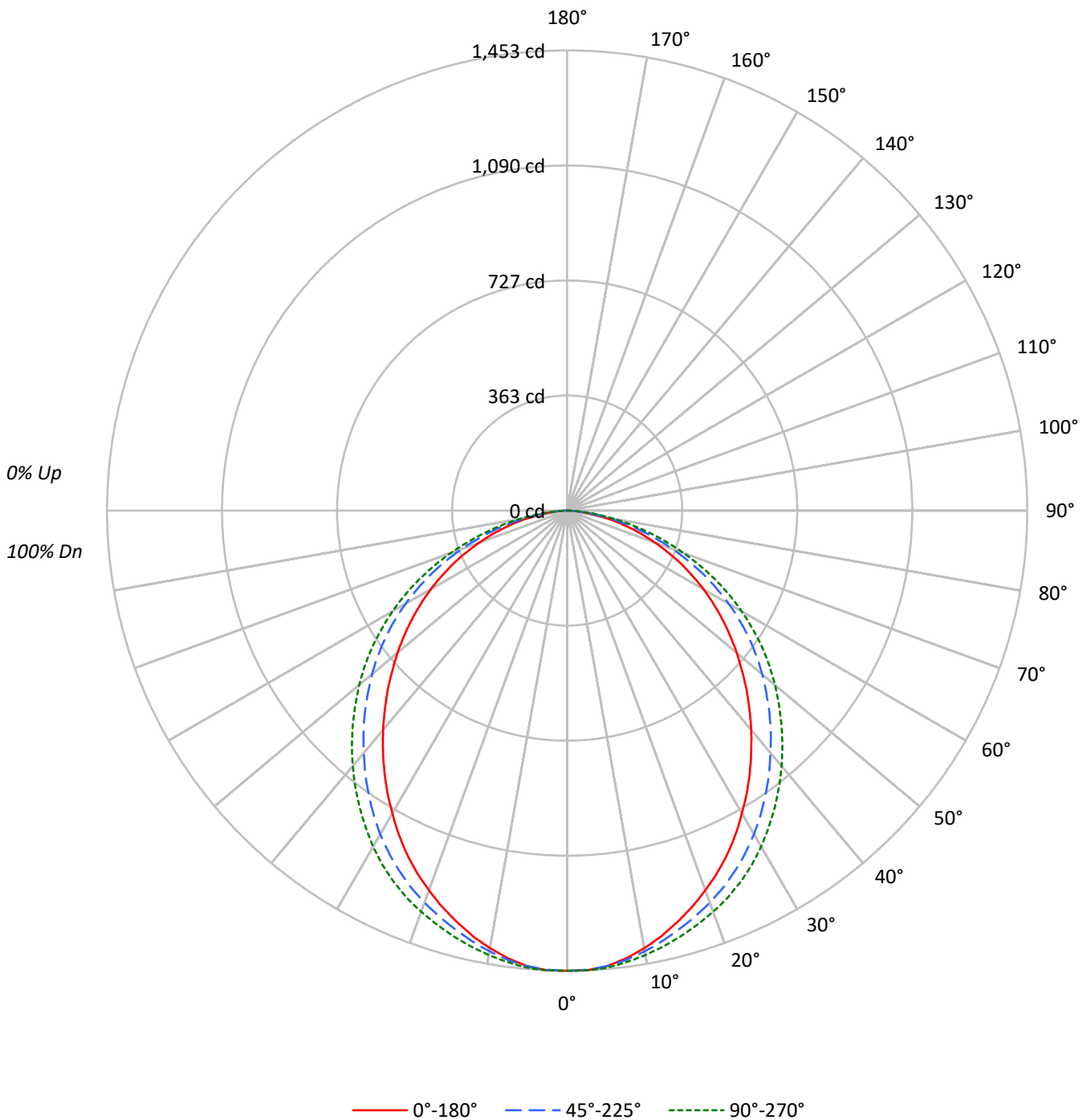
Summary

Lumens per Lamp: 1325 (4 lamps)
Luminaire Lumens: 3845.8 lumens
Efficiency: 72.6%
Efficacy: 60.0 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.25 / 1.33
Luminous Opening: Rectangular (W 1.75' x L: 1.75' x H: 0')
CIE Type: Direct

Input Watts (W): 64.1
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	86	86	86	86	84	84	84	84	81	81	81		77	77	77		74	74	74	73
1	79	76	73	70	77	74	71	69	71	69	67		68	66	65		66	64	63	61
2	72	66	61	57	70	65	60	56	62	58	55		60	57	54		58	55	53	51
3	66	58	52	48	64	57	52	47	55	50	46		53	49	46		51	48	45	43
4	60	52	45	40	59	51	45	40	49	44	40		47	43	39		46	42	38	37
5	55	46	40	35	54	45	39	35	44	38	34		42	38	34		41	37	34	32
6	51	42	35	30	50	41	35	30	40	34	30		38	33	30		37	33	30	28
7	47	38	31	27	46	37	31	27	36	31	27		35	30	26		34	30	26	25
8	44	34	28	24	43	34	28	24	33	28	24		32	27	24		31	27	24	22
9	41	32	26	22	40	31	26	22	30	25	22		30	25	21		29	24	21	20
10	39	29	24	20	38	29	23	20	28	23	20		27	23	19		27	22	19	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5107	5107	5107
5°	5095	5095	5112
10°	5007	5043	5086
15°	4894	4978	5061
20°	4773	4926	5042
25°	4642	4867	5018
30°	4481	4789	4972
35°	4316	4690	4904
40°	4148	4584	4831
45°	3981	4488	4757
50°	3822	4396	4686
55°	3664	4289	4602
60°	3494	4147	4478
65°	3293	3934	4300
70°	3021	3638	4018
75°	2702	3205	3626
80°	2226	2591	3056
85°	1653	1815	2258



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	136.9	3.6	2.6	0°	1453	1453	1453	1453	1453	
10°-20°	385.9	10.0	7.3	5°	1444	1443	1444	1447	1449	136
20°-30°	575.5	15.0	10.9	15°	1345	1352	1368	1384	1391	379
30°-40°	677.6	17.6	12.8	25°	1197	1214	1255	1286	1294	550
40°-50°	687.6	17.9	13.0	35°	1006	1032	1093	1133	1143	629
50°-60°	614.3	16.0	11.6	45°	801	834	903	948	957	618
60°-70°	460.1	12.0	8.7	55°	598	633	700	744	751	535
70°-80°	249.6	6.5	4.7	65°	396	423	473	510	517	391
80°-90°	58.3	1.5	1.1	75°	199	213	236	260	267	211
90°-100°	0.1	0.0	0.0	85°	41	43	45	51	56	48
100°-110°	0.0	0.0	0.0	90°	1	1	0	0	0	2
110°-120°	0.0	0.0	0.0	95°	0	0	0	0	0	0
120°-130°	0.0	0.0	0.0	105°	0	0	0	0	0	0
130°-140°	0.0	0.0	0.0	115°	0	0	0	0	0	0
140°-150°	0.0	0.0	0.0	125°	0	0	0	0	0	0
150°-160°	0.0	0.0	0.0	135°	0	0	0	0	0	0
160°-170°	0.0	0.0	0.0	145°	0	0	0	0	0	0
170°-180°	0.0	0.0	0.0	155°	0	0	0	0	0	0
0°-30°	1098.4	28.6	20.7	165°	0	0	0	0	0	0
0°-40°	1775.9	46.2	33.5	175°	0	0	0	0	0	0
0°-60°	3077.7	80.0	58.1	180°	0	0	0	0	0	0
0°-90°	3845.8	100.0	72.6							
90°-120°	0.1	0.0	0.0							
90°-150°	0.1	0.0	0.0							
90°-180°	0.0	0.0	0.0							
0°-180°	3845.8	100.0	72.6							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1453	1453	1453	1453	1453
2.5°	1453	1452	1451	1452	1453
5°	1444	1443	1444	1447	1449
7.5°	1426	1427	1431	1436	1438
10°	1403	1405	1413	1420	1425
12.5°	1376	1380	1392	1403	1409
15°	1345	1352	1368	1384	1391
17.5°	1312	1322	1344	1363	1370
20°	1276	1289	1317	1340	1348
22.5°	1238	1253	1288	1315	1323
25°	1197	1214	1255	1286	1294
27.5°	1152	1172	1219	1253	1262
30°	1104	1127	1180	1216	1225
32.5°	1056	1081	1138	1176	1185
35°	1006	1032	1093	1133	1143
37.5°	955	983	1047	1089	1099
40°	904	934	999	1043	1053
42.5°	852	884	952	996	1006
45°	801	834	903	948	957
47.5°	749	784	853	899	907
50°	699	734	804	848	857
52.5°	648	683	753	797	805
55°	598	633	700	744	751
57.5°	548	581	646	688	694
60°	497	529	590	630	637
62.5°	446	476	532	571	577
65°	396	423	473	510	517
67.5°	345	370	413	448	454
70°	294	316	354	384	391
72.5°	246	263	294	321	328
75°	199	213	236	260	267
77.5°	153	163	180	200	207
80°	110	117	128	144	151
82.5°	73	77	83	94	100
85°	41	43	45	51	56
87.5°	16	16	16	19	20
90°	1	1	0	0	0
92.5°	0	0	0	0	0
95°	0	0	0	0	0
97.5°	0	0	0	0	0
100°	0	0	0	0	0
102.5°	0	0	0	0	0
105°	0	0	0	0	0
107.5°	0	0	0	0	0
110°	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0	0	0	0	0
115°	0	0	0	0	0
117.5°	0	0	0	0	0
120°	0	0	0	0	0
122.5°	0	0	0	0	0
125°	0	0	0	0	0
127.5°	0	0	0	0	0
130°	0	0	0	0	0
132.5°	0	0	0	0	0
135°	0	0	0	0	0
137.5°	0	0	0	0	0
140°	0	0	0	0	0
142.5°	0	0	0	0	0
145°	0	0	0	0	0
147.5°	0	0	0	0	0
150°	0	0	0	0	0
152.5°	0	0	0	0	0
155°	0	0	0	0	0
157.5°	0	0	0	0	0
160°	0	0	0	0	0
162.5°	0	0	0	0	0
165°	0	0	0	0	0
167.5°	0	0	0	0	0
170°	0	0	0	0	0
172.5°	0	0	0	0	0
175°	0	0	0	0	0
177.5°	0	0	0	0	0
180°	0	0	0	0	0

(END OF REPORT)