

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: P30117

Luminaire Tested: **CRG-24-617-UNV-IK12**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P30117
Test Lab: METALUX RESEARCH LABS
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: CRG-24-617-UNV-IK12
Description: FAILSAFE TRISEAL CRG SERIES 2x2 6L T8
Light Source: (6) DOUBLE ENDED T8 2 FOOT LINEAR FLUORESCENT LAMPS
F17W T8 17 WATTS
Ballast/Driver: (2) ADVANCE CENTIUM
ICN-332P-SC

Summary

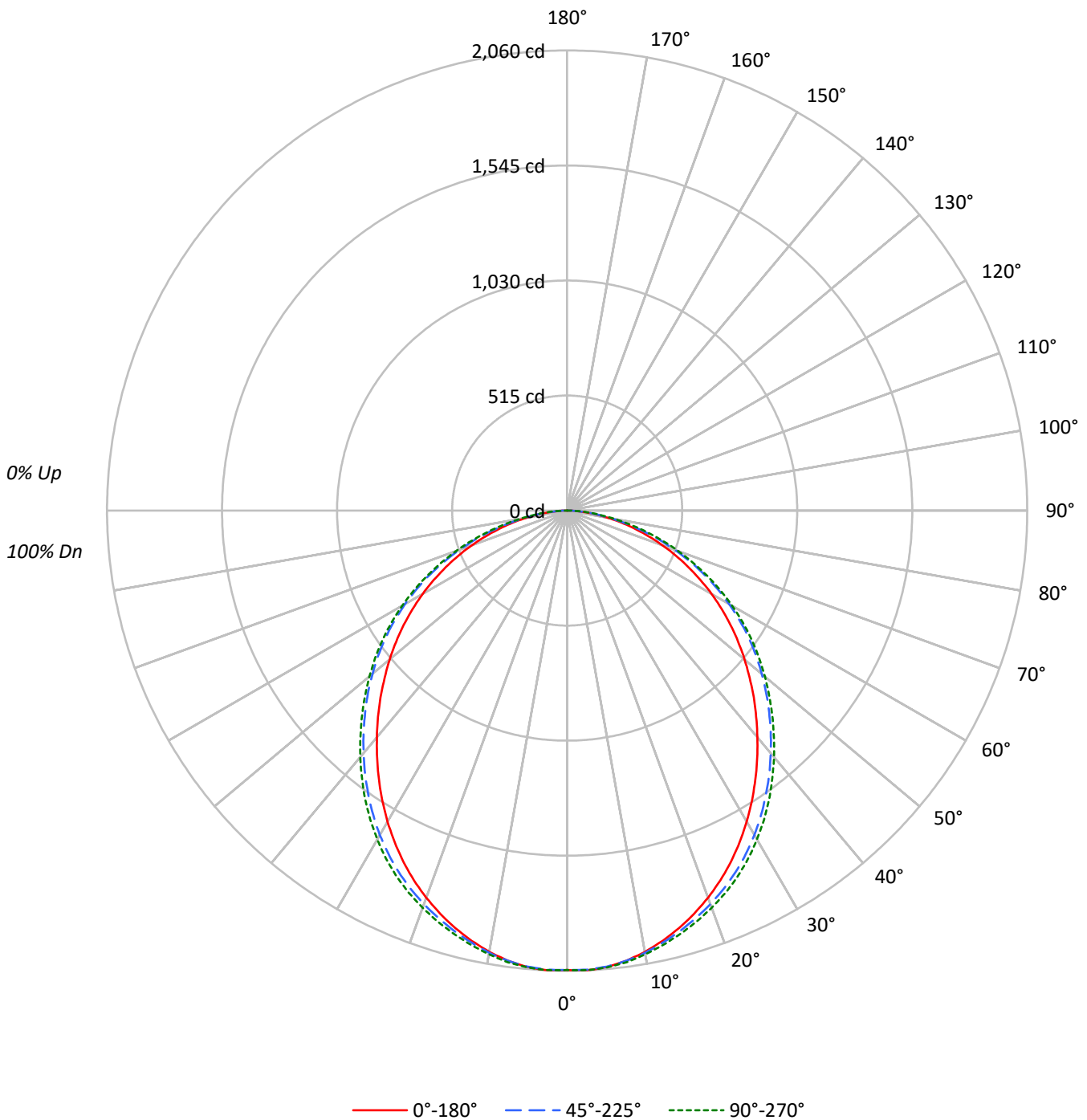
Lumens per Lamp: 1325 (6 lamps)
Luminaire Lumens: 5484.4 lumens
Efficiency: 69.0%
Efficacy: 63.9 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 1.23 / 1.33
Luminous Opening: Rectangular (W 1.75' x L: 1.75' x H: 0')
CIE Type: Direct

Input Watts (W): 85.8
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				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	82	82	82	82	80	80	80	80	77	77	77	73	73	73	70	70	70	69
1	75	72	69	66	73	70	68	65	67	65	63	65	63	61	62	61	59	58
2	68	63	58	54	67	61	57	53	59	55	52	57	54	51	55	52	50	48
3	62	55	50	45	61	54	49	45	52	48	44	50	46	43	48	45	42	41
4	57	49	43	38	56	48	42	38	46	41	37	45	40	37	43	39	36	35
5	53	44	38	33	51	43	37	33	41	36	32	40	36	32	39	35	32	30
6	49	39	33	29	47	39	33	29	38	32	28	36	32	28	35	31	28	27
7	45	36	30	26	44	35	29	25	34	29	25	33	29	25	32	28	25	24
8	42	33	27	23	41	32	27	23	31	26	23	30	26	22	30	25	22	21
9	39	30	24	21	38	30	24	21	29	24	20	28	24	20	27	23	20	19
10	37	28	22	19	36	27	22	19	27	22	19	26	22	18	25	21	18	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7230	7230	7230
5°	7236	7229	7243
10°	7159	7174	7199
15°	7041	7092	7136
20°	6897	7013	7077
25°	6728	6922	7008
30°	6526	6806	6899
35°	6303	6659	6766
40°	6079	6506	6612
45°	5870	6357	6457
50°	5670	6223	6316
55°	5472	6079	6183
60°	5251	5891	5996
65°	4982	5630	5755
70°	4666	5262	5426
75°	4251	4739	4984
80°	3724	4048	4392
85°	3105	3226	3629



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	194.4	3.5	2.4	0°	2057	2057	2057	2057	2057	
10°-20°	549.5	10.0	6.9	5°	2051	2050	2049	2051	2053	194
20°-30°	818.4	14.9	10.3	15°	1935	1939	1949	1958	1961	545
30°-40°	961.0	17.5	12.1	25°	1735	1753	1785	1803	1807	798
40°-50°	971.7	17.7	12.2	35°	1469	1498	1552	1573	1577	919
50°-60°	868.2	15.8	10.9	45°	1181	1217	1279	1300	1299	911
60°-70°	655.6	12.0	8.2	55°	893	933	992	1011	1009	798
70°-80°	367.2	6.7	4.6	65°	599	634	677	696	692	593
80°-90°	97.8	1.8	1.2	75°	313	331	349	364	367	332
90°-100°	0.6	0.0	0.0	85°	77	81	80	85	90	85
100°-110°	0.0	0.0	0.0	90°	4	4	4	5	5	6
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°	1562.4	28.5	19.7	165°	0	0	0	0	0	0
0°-40°	2523.3	46.0	31.7	175°	0	0	0	0	0	0
0°-60°	4363.2	79.6	54.9	180°	0	0	0	0	0	0
0°-90°	5483.8	100.0	69.0							
90°-120°	0.6	0.0	0.0							
90°-150°	0.6	0.0	0.0							
90°-180°	1.0	0.0	0.0							
0°-180°	5484.4	100.0	69.0							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2057	2057	2057	2057	2057
2.5°	2060	2058	2057	2058	2059
5°	2051	2050	2049	2051	2053
7.5°	2032	2032	2033	2036	2039
10°	2006	2006	2010	2015	2017
12.5°	1973	1975	1981	1988	1991
15°	1935	1939	1949	1958	1961
17.5°	1892	1899	1913	1925	1929
20°	1844	1854	1875	1889	1892
22.5°	1792	1806	1832	1848	1852
25°	1735	1753	1785	1803	1807
27.5°	1673	1694	1733	1752	1756
30°	1608	1632	1677	1697	1700
32.5°	1540	1567	1616	1636	1640
35°	1469	1498	1552	1573	1577
37.5°	1398	1428	1486	1507	1509
40°	1325	1358	1418	1439	1441
42.5°	1253	1287	1349	1370	1370
45°	1181	1217	1279	1300	1299
47.5°	1108	1146	1209	1229	1227
50°	1037	1075	1138	1158	1155
52.5°	965	1004	1066	1086	1083
55°	893	933	992	1011	1009
57.5°	820	860	916	935	932
60°	747	786	838	857	853
62.5°	673	710	758	778	773
65°	599	634	677	696	692
67.5°	526	557	594	612	610
70°	454	481	512	529	528
72.5°	382	405	430	446	447
75°	313	331	349	364	367
77.5°	247	260	272	284	289
80°	184	193	200	210	217
82.5°	127	132	135	143	149
85°	77	81	80	85	90
87.5°	36	37	35	39	42
90°	4	4	4	5	5
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)