

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: P20117

Luminaire Tested: **CRG-12-254T5-UNV-IK12**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P20117  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: CRG-12-254T5-UNV-IK12  
Description: FAILSAFE TRISEAL CRG SERIES 1x4 2L T5  
Light Source: (2) DOUBLE ENDED T5 4 FOOT HIGH OUTPUT LINEAR FLUORESCENT LAMPS  
F54W T5HO 54 WATTS  
Ballast/Driver: (1) ADVANCE ELECTRONIC BALLAST  
ICN-2S54

**Summary**

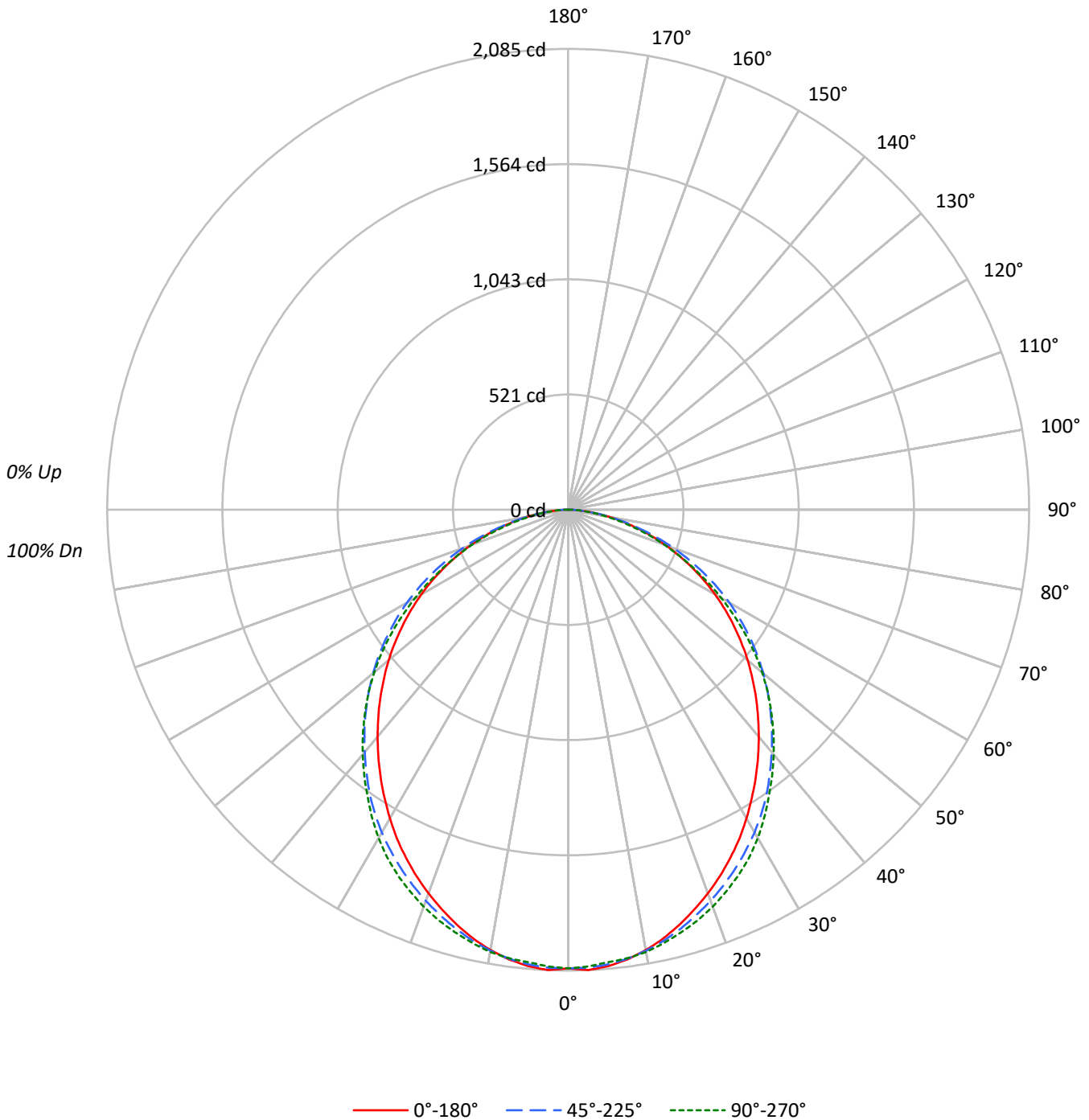
Lumens per Lamp: 4400 (2 lamps)  
Luminaire Lumens: 5466.2 lumens  
Efficiency: 62.1%  
Efficacy: 52.7 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 0.75' x L: 3.75' x H: 0')  
CIE Type: Direct

Input Watts (W): 103.8  
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									
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	74	74	74	74	72	72	72	72	69	69	69	66	66	66	63	63	63	62																			
1	68	65	62	60	66	63	61	59	61	59	57	58	57	55	56	55	54	52																			
2	62	57	52	49	60	55	52	48	53	50	47	51	48	46	49	47	45	44																			
3	56	50	45	41	55	49	44	40	47	43	40	45	42	39	44	41	38	37																			
4	52	44	39	35	50	43	38	34	42	37	34	40	37	33	39	36	33	32																			
5	47	40	34	30	46	39	34	30	38	33	29	36	32	29	35	32	29	27																			
6	44	36	30	26	43	35	30	26	34	29	26	33	29	26	32	28	25	24																			
7	41	32	27	23	40	32	27	23	31	26	23	30	26	23	29	25	23	21																			
8	38	30	24	21	37	29	24	21	28	24	20	28	23	20	27	23	20	19																			
9	35	27	22	19	35	27	22	19	26	22	18	25	21	18	25	21	18	17																			
10	33	25	20	17	32	25	20	17	24	20	17	24	20	17	23	19	17	16																			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	7941	7941	7941
5°	7964	7933	7895
10°	7862	7873	7897
15°	7702	7778	7841
20°	7522	7669	7783
25°	7335	7559	7702
30°	7128	7451	7579
35°	6910	7317	7396
40°	6700	7154	7224
45°	6500	7009	7036
50°	6311	6859	6817
55°	6105	6672	6512
60°	5871	6445	6116
65°	5587	6113	5669
70°	5237	5662	5159
75°	4776	5042	4525
80°	4188	4298	3835
85°	3469	3425	3118



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**ZONAL LUMENS:**

**CANDELA DISTRIBUTION:**

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	195.6	3.6	2.2	0°	2075	2075	2075	2075	2075	
10°-20°	552.1	10.1	6.3	5°	2073	2053	2065	2063	2055	196
20°-30°	820.5	15.0	9.3	15°	1944	1935	1963	1972	1979	548
30°-40°	965.2	17.7	11.0	25°	1737	1743	1790	1812	1824	800
40°-50°	979.6	17.9	11.1	35°	1479	1496	1566	1580	1583	925
50°-60°	869.9	15.9	9.9	45°	1201	1227	1295	1306	1300	927
60°-70°	642.8	11.8	7.3	55°	915	946	1000	1004	976	818
70°-80°	349.7	6.4	4.0	65°	617	644	675	657	626	611
80°-90°	90.8	1.7	1.0	75°	323	334	341	324	306	343
90°-100°	0.0	0.0	0.0	85°	79	82	78	72	71	93
100°-110°	0.0	0.0	0.0	90°	0	0	0	0	0	
110°-120°	0.0	0.0	0.0							
120°-130°	0.0	0.0	0.0							
130°-140°	0.0	0.0	0.0							
140°-150°	0.0	0.0	0.0							
150°-160°	0.0	0.0	0.0							
160°-170°	0.0	0.0	0.0							
170°-180°	0.0	0.0	0.0							
0°-30°	1568.1	28.7	17.8							
0°-40°	2533.3	46.3	28.8							
0°-60°	4382.8	80.2	49.8							
0°-90°	5466.2	100.0	62.1							
90°-120°	0.0	0.0	0.0							
90°-150°	0.0	0.0	0.0							
90°-180°	0.0	0.0	0.0							
0°-180°	5466.2	100.0	62.1							



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2075	2075	2075	2075	2075
2.5°	2085	2064	2074	2071	2068
5°	2073	2053	2065	2063	2055
7.5°	2052	2035	2049	2048	2047
10°	2023	2008	2026	2030	2032
12.5°	1987	1974	1997	2004	2007
15°	1944	1935	1963	1972	1979
17.5°	1897	1891	1924	1939	1948
20°	1847	1845	1883	1902	1911
22.5°	1794	1795	1838	1859	1869
25°	1737	1743	1790	1812	1824
27.5°	1677	1686	1739	1762	1773
30°	1613	1626	1686	1708	1715
32.5°	1546	1561	1628	1646	1651
35°	1479	1496	1566	1580	1583
37.5°	1410	1429	1499	1512	1515
40°	1341	1362	1432	1444	1446
42.5°	1271	1295	1364	1376	1374
45°	1201	1227	1295	1306	1300
47.5°	1130	1159	1224	1235	1224
50°	1060	1090	1152	1161	1145
52.5°	987	1019	1077	1084	1062
55°	915	946	1000	1004	976
57.5°	841	873	922	921	888
60°	767	799	842	834	799
62.5°	693	721	759	745	712
65°	617	644	675	657	626
67.5°	542	566	590	571	543
70°	468	487	506	486	461
72.5°	394	410	422	403	381
75°	323	334	341	324	306
77.5°	255	263	265	249	236
80°	190	195	195	181	174
82.5°	131	135	131	122	118
85°	79	82	78	72	71
87.5°	36	38	36	32	31
90°	0	0	0	0	0

(END OF REPORT)