

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: P31119

Luminaire Tested: **ORM 2X4 T5**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: P31119
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORM 2X4 T5
Description: FAILSAFE HEALTHCARE 2x4 RECESSED GRID MOUNT LINEAR
FLUORESCENT FIXTURE WITH A WHITE PAINTED INTERIOR & A DOOR
WITH A CLEAR FACETED SHATTER RESISTANT LENS---RELATIVE
PHOTOMETRY IS BASED ON RELATIONAL FACTORS CREATED USING
MANUFACTURERS PUBLISHED DATA AND A BARE LAMP SUM FOR THE LAMP
UNDER TEST IN GONIOPHOTOMETER WITH TEST DISTANCE OF 24.0 FT
Light Source: (6) BIPIN T8 DOUBLE ENDED LINEAR FLUORESCENT LAMPS 5000K
SYLVANIA FP54/850C/HO/ECO 54 W
Ballast/Driver: (3) GE ELECTRONIC BALLAST
GE GE454MVPS90-E

Luminaire Equipment:	<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
	AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
	AS-5443-2	Good	REFLECTOR
	AS-5443-3	Good	DRIVER
	AS-5443-4	Good	UPPER MODULE
	AS-5443-5	Good	LENS
	AS-5443-6	Good	DRIVER 2
	AS-5443-7	Good	TRIM RING

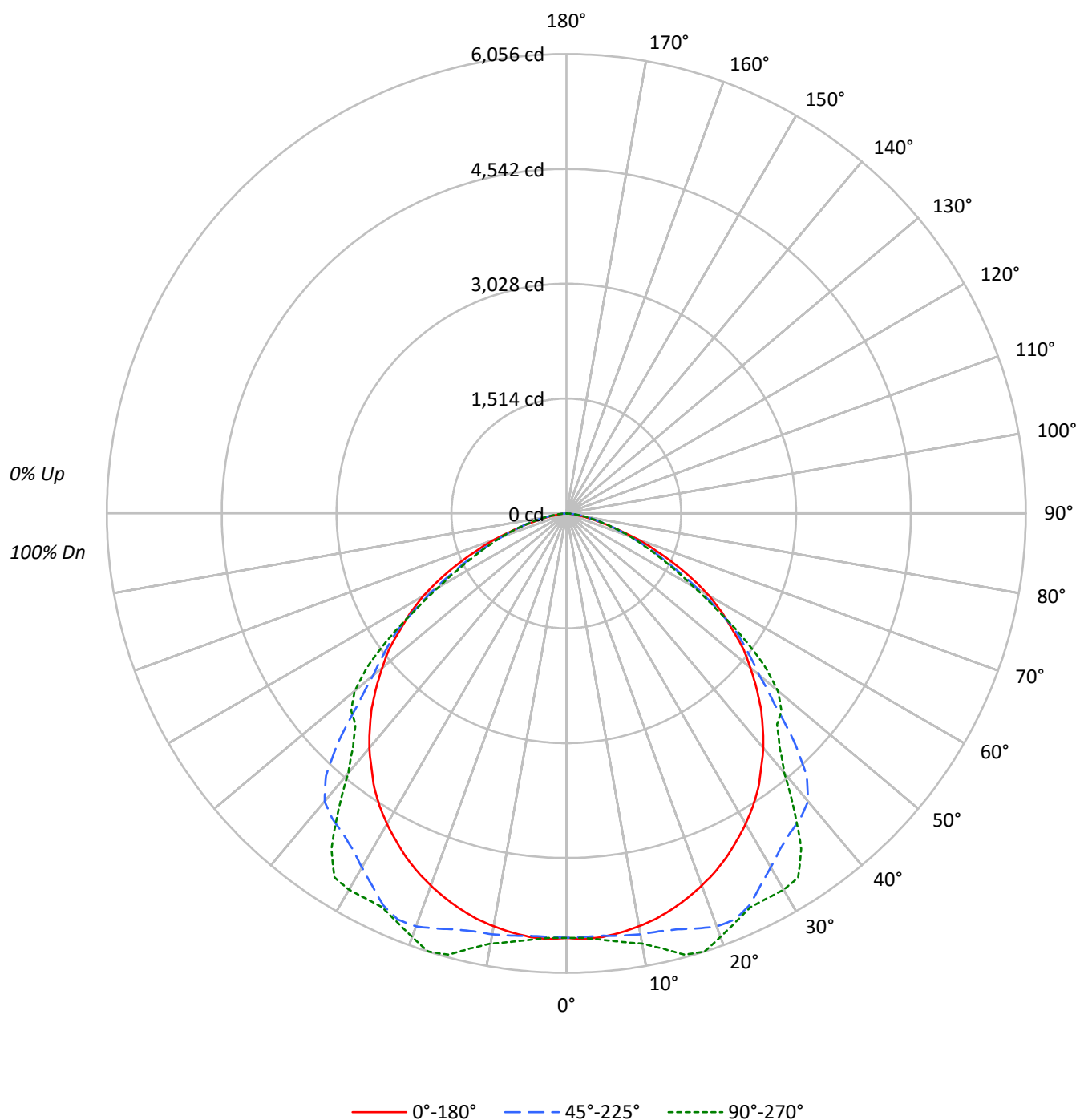
Summary

Lumens per Lamp: 4400 (6 lamps)
Luminaire Lumens: 15610.1 lumens
Efficiency: 59.1%
Efficacy: 50.3 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.44 / 1.44
Luminous Opening: Rectangular (W 1.75' x L: 3.83' x H: 0')
CIE Type: Direct

Input Watts (W): 310.4
Input Voltage (V): NR
Input Current (Ain): 2.594
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				0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	70	70	70	70	69	69	69	69	66	66	66	63	63	63	60	60	59
1	65	63	60	58	64	61	59	57	59	57	56	56	55	54	54	53	51
2	60	55	52	48	58	54	51	48	52	49	47	50	48	46	48	46	43
3	55	49	44	41	53	48	44	40	46	43	40	45	42	39	43	41	37
4	50	44	39	35	49	43	38	35	41	37	34	40	37	34	39	36	32
5	46	39	34	30	45	38	34	30	37	33	30	36	32	29	35	32	28
6	43	35	30	26	42	35	30	26	34	29	26	33	29	26	32	28	25
7	40	32	27	23	39	31	27	23	31	26	23	30	26	23	29	25	22
8	37	29	24	21	36	29	24	21	28	24	21	27	23	21	27	23	19
9	34	27	22	19	34	26	22	19	26	22	19	25	21	19	24	21	17
10	32	25	20	17	32	24	20	17	24	20	17	23	19	17	23	19	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8976	8976	8976
5°	9023	9001	9089
10°	9002	9178	9382
15°	8967	9425	10002
20°	8913	9893	10143
25°	8852	10100	10145
30°	8758	9981	10611
35°	8644	10070	10574
40°	8458	10377	9361
45°	8228	9619	8918
50°	7908	8295	9081
55°	7475	7687	7922
60°	6986	6479	6222
65°	5972	5262	5110
70°	4757	4222	4269
75°	3100	3323	3280
80°	1765	2495	2458
85°	976	1491	1565



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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	535.9	3.4	2.0
10°-20°	1611.4	10.3	6.1
20°-30°	2542.2	16.3	9.6
30°-40°	3168.7	20.3	12.0
40°-50°	3113.1	19.9	11.8
50°-60°	2528.1	16.2	9.6
60°-70°	1426.1	9.1	5.4
70°-80°	580.4	3.7	2.2
80°-90°	104.1	0.7	0.4
90°-100°	0.0	0.0	0.0
100°-110°	0.0	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°	4689.6	30.0	17.8
0°-40°	7858.3	50.3	29.8
0°-60°	13499.5	86.5	51.1
0°-90°	15610.1	100.0	59.1
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°	15610.1	100.0	59.1

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5594	5594	5594	5594	5594	
5°	5602	5586	5588	5616	5643	532
15°	5398	5480	5674	5931	6021	1523
25°	5000	5247	5705	5694	5730	2302
35°	4413	4940	5141	5467	5398	2755
45°	3626	4173	4239	3879	3930	2790
55°	2672	3162	2748	2844	2832	2397
65°	1573	1432	1386	1381	1346	1561
75°	500	513	536	554	529	567
85°	53	71	81	81	85	77
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5594	5594	5594	5594	5594
2.5°	5616	5599	5586	5587	5601
5°	5602	5586	5588	5616	5643
7.5°	5570	5565	5613	5670	5698
10°	5525	5543	5633	5710	5758
12.5°	5472	5516	5641	5794	5875
15°	5398	5480	5674	5931	6021
17.5°	5314	5442	5736	6001	6056
20°	5220	5384	5794	5940	5940
22.5°	5117	5319	5795	5813	5831
25°	5000	5247	5705	5694	5730
27.5°	4862	5179	5537	5611	5722
30°	4727	5124	5387	5593	5727
32.5°	4577	5049	5244	5581	5689
35°	4413	4940	5141	5467	5398
37.5°	4221	4798	5068	5133	4936
40°	4038	4626	4954	4619	4469
42.5°	3834	4410	4689	4194	4158
45°	3626	4173	4239	3879	3930
47.5°	3395	3941	3722	3687	3845
50°	3168	3737	3323	3554	3638
52.5°	2947	3532	3025	3216	3286
55°	2672	3162	2748	2844	2832
57.5°	2435	2671	2376	2346	2339
60°	2177	2201	2019	1981	1939
62.5°	1876	1789	1676	1658	1620
65°	1573	1432	1386	1381	1346
67.5°	1275	1160	1135	1123	1108
70°	1014	912	900	897	910
72.5°	720	707	702	724	713
75°	500	513	536	554	529
77.5°	335	368	395	390	386
80°	191	241	270	263	266
82.5°	109	142	162	164	168
85°	53	71	81	81	85
87.5°	25	31	31	32	30
90°	0	0	0	0	0

(END OF REPORT)