

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: P31000

Luminaire Tested: **ORM 2X4 632 T8**

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: P31000
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORM 2X4 632 T8
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
GE F32T8-XL-SPX50-HL-ECO 32 W
Ballast/Driver: (3) SYLVANIA ELECTRONIC BALLAST
QTP2X32T8/UNV-ISN-SC

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

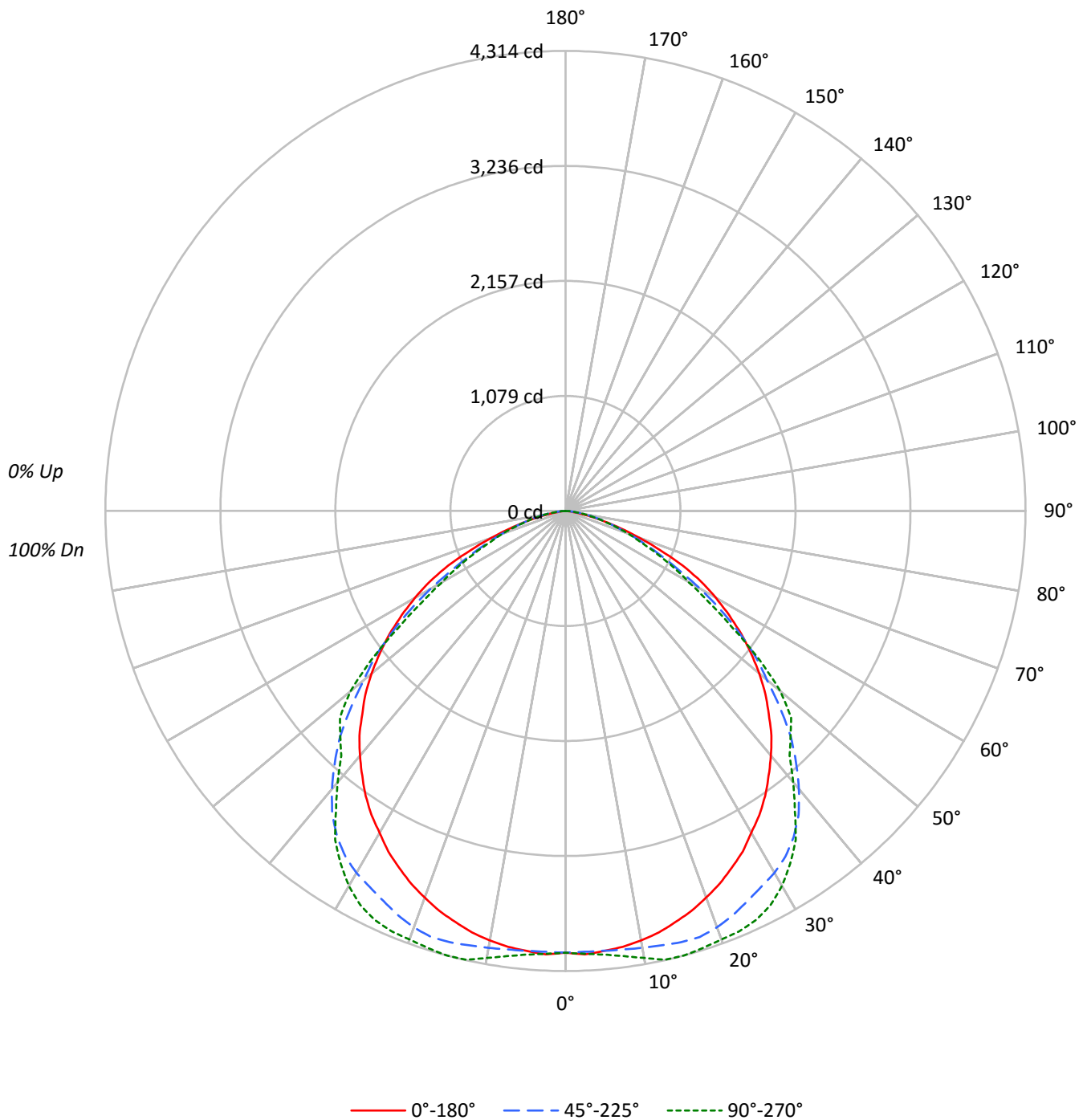
Lumens per Lamp: 3100 (6 lamps)
Luminaire Lumens: 11257.6 lumens
Efficiency: 60.5%
Efficacy: 72.1 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.4 / 1.42
Luminous Opening: Rectangular (W 1.75' x L: 3.83' x H: 0')
CIE Type: Direct

Input Watts (W): 156.1
Input Voltage (V): NR
Input Current (Ain): 1.305
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	72	72	72	72	70	70	70	70	67	67	67	64	64	64	62	62	62
1	67	64	62	60	65	63	61	59	60	58	57	58	56	55	56	55	54
2	61	57	53	50	60	55	52	49	53	50	48	51	49	47	50	48	46
3	56	50	46	42	55	49	45	42	47	44	41	46	43	40	44	42	39
4	51	45	40	36	50	44	39	36	42	38	35	41	37	35	40	37	34
5	47	40	35	31	46	39	35	31	38	34	31	37	33	30	36	33	30
6	44	36	31	27	43	36	31	27	34	30	27	33	30	27	33	29	26
7	41	33	28	24	40	32	27	24	31	27	24	31	27	24	30	26	23
8	38	30	25	22	37	30	25	21	29	24	21	28	24	21	27	24	21
9	35	27	23	19	35	27	22	19	26	22	19	26	22	19	25	22	19
10	33	25	21	18	32	25	21	18	24	20	17	24	20	17	23	20	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6646	6646	6646
5°	6671	6668	6725
10°	6661	6776	6934
15°	6628	6954	7166
20°	6588	7095	7301
25°	6535	7145	7491
30°	6455	7259	7522
35°	6394	7306	7375
40°	6278	7134	6960
45°	6115	6776	6774
50°	5921	6158	6568
55°	5628	5561	5371
60°	5224	4669	4284
65°	4605	3744	3573
70°	3476	3007	2965
75°	2368	2387	2312
80°	1303	1820	1737
85°	700	1068	1105



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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	396.6	3.5	2.1
10°-20°	1176.7	10.5	6.3
20°-30°	1848.7	16.4	9.9
30°-40°	2262.2	20.1	12.2
40°-50°	2263.0	20.1	12.2
50°-60°	1803.2	16.0	9.7
60°-70°	1018.4	9.0	5.5
70°-80°	414.9	3.7	2.2
80°-90°	74.0	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°	3421.9	30.4	18.4
0°-40°	5684.2	50.5	30.6
0°-60°	9750.3	86.6	52.4
0°-90°	11257.6	100.0	60.5
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°	11257.6	100.0	60.5

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4142	4142	4142	4142	4142	
5°	4142	4142	4140	4159	4175	394
15°	3990	4045	4186	4288	4314	1126
25°	3691	3870	4036	4177	4231	1701
35°	3264	3536	3730	3744	3765	2038
45°	2695	2994	2986	2905	2985	2081
55°	2012	2192	1988	1964	1920	1794
65°	1213	1050	986	939	941	1184
75°	382	381	385	375	373	421
85°	38	51	58	61	60	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4142	4142	4142	4142	4142
2.5°	4162	4142	4138	4145	4156
5°	4142	4142	4140	4159	4175
7.5°	4122	4128	4147	4186	4210
10°	4088	4100	4159	4223	4256
12.5°	4048	4077	4172	4266	4310
15°	3990	4045	4186	4288	4314
17.5°	3932	4008	4189	4255	4295
20°	3858	3966	4155	4228	4276
22.5°	3782	3919	4103	4203	4265
25°	3691	3870	4036	4177	4231
27.5°	3600	3812	3975	4118	4166
30°	3484	3731	3918	4030	4060
32.5°	3383	3643	3842	3905	3923
35°	3264	3536	3730	3744	3765
37.5°	3130	3410	3591	3578	3533
40°	2997	3276	3406	3341	3323
42.5°	2859	3136	3202	3101	3111
45°	2695	2994	2986	2905	2985
47.5°	2545	2854	2727	2763	2869
50°	2372	2688	2467	2579	2631
52.5°	2194	2452	2250	2286	2293
55°	2012	2192	1988	1964	1920
57.5°	1820	1874	1727	1627	1596
60°	1628	1574	1455	1356	1335
62.5°	1434	1298	1193	1137	1138
65°	1213	1050	986	939	941
67.5°	961	856	799	769	764
70°	741	672	641	625	632
72.5°	543	516	498	494	493
75°	382	381	385	375	373
77.5°	236	267	286	277	279
80°	141	171	197	184	188
82.5°	75	100	116	118	115
85°	38	51	58	61	60
87.5°	15	19	23	22	22
90°	0	0	0	0	0

(END OF REPORT)