

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: 8704.0

Luminaire Tested: **MAF24 632 277 ASY/SYM RFI 3/2 ELB RIF**

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: 8704.0
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: MAF24 632 277 ASY/SYM RFI 3/2 ELB RIF
Description: FAIL-SAFE 2x4 RECESSED SURGICAL LUMINAIRE
WHITE REFLECTOR w/ ASYMMETRIC/SYMMETRIC PATTERN LENS
Light Source: 6/32W T8 2850 LUMENS
WATTS=166
F32T8/735/RS
Ballast/Driver: ADVANCE #REL-3P32-RH-TP

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

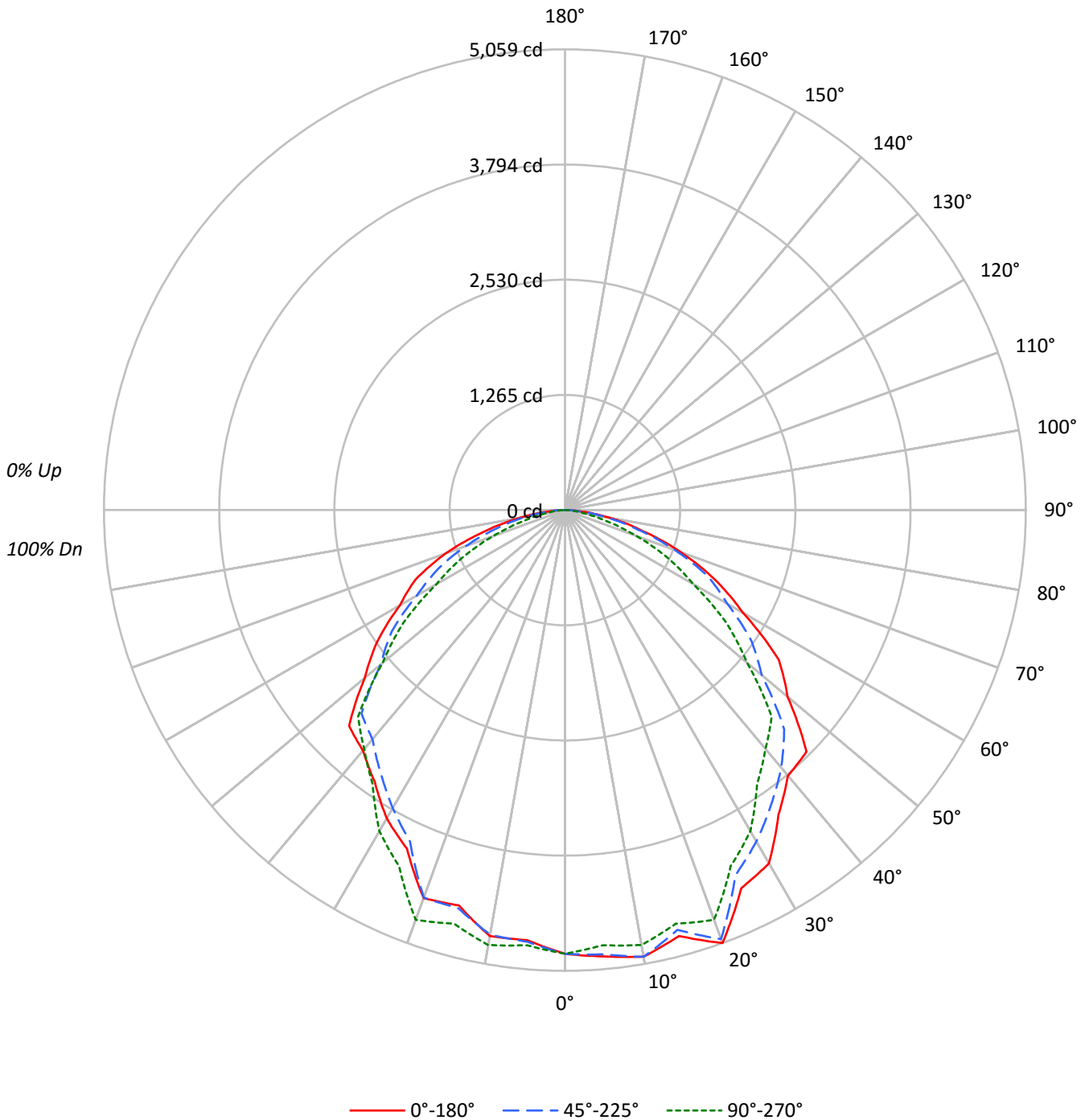
Lumens per Lamp: 2850 (6 lamps)
Luminaire Lumens: 13379.6 lumens
Efficiency: 78.2%
Efficacy: 80.6 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.23 / 1.37
Luminous Opening: Rectangular (W 1.89' x L: 3.89' x H: 0')
CIE Type: Direct

Input Watts (W): 166
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	50	30	10	0	
RCR																						
0	93	93	93	93	91	91	91	91	87	87	87	83	83	83	80	80	80	80	80	80	78	
1	85	82	78	76	83	80	77	74	77	74	72	74	72	70	71	69	68	68	68	68	66	
2	78	71	66	62	76	70	65	61	67	63	60	65	61	58	62	59	57	57	57	57	55	
3	71	63	57	52	69	62	56	51	59	54	50	57	53	49	55	52	48	48	48	48	47	
4	65	56	49	44	63	55	48	43	53	47	43	51	46	42	49	45	42	42	42	42	40	
5	60	50	43	38	58	49	42	38	47	42	37	46	41	37	44	40	36	36	36	36	35	
6	55	45	38	33	54	44	38	33	43	37	33	41	36	32	40	36	32	32	32	32	30	
7	51	41	34	29	50	40	34	29	39	33	29	38	33	29	37	32	28	28	28	28	27	
8	48	37	31	26	46	37	30	26	36	30	26	35	29	26	34	29	25	25	25	25	24	
9	45	34	28	23	43	34	28	23	33	27	23	32	27	23	31	26	23	23	23	23	22	
10	42	32	25	21	41	31	25	21	30	25	21	30	25	21	29	24	21	21	21	21	20	

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	7133	7133	7133
5°	7229	7048	6966
10°	7403	7209	7060
15°	7338	7127	6812
20°	7882	7461	7064
25°	7400	6964	6626
30°	7574	6884	6610
35°	7305	6574	6506
40°	7280	6544	6588
45°	7766	6648	6936
50°	7270	5954	6532
55°	7321	5531	6417
60°	6615	4764	6120
65°	6329	4327	6277
70°	5809	3596	5971
75°	5012	2704	5187
80°	4350	1880	4418
85°	3360	1293	3360



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	45°	90°	135°	180°	Flux
0°-10°	462.3	3.5	2.7	0°	4872	4872	4872	4872	4872	
10°-20°	1344.4	10.0	7.9	5°	4919	4896	4796	4757	4740	471
20°-30°	2004.1	15.0	11.7	15°	4841	4772	4702	4525	4494	1398
30°-40°	2350.6	17.6	13.7	25°	4581	4426	4311	4018	4102	2158
40°-50°	2495.8	18.7	14.6	35°	4087	3948	3678	3524	3640	2579
50°-60°	2149.7	16.1	12.6	45°	3751	3404	3211	3157	3350	2803
60°-70°	1560.0	11.7	9.1	55°	2868	2498	2167	2321	2514	2503
70°-80°	810.2	6.1	4.7	65°	1827	1742	1249	1542	1812	1800
80°-90°	202.5	1.5	1.2	75°	886	832	478	771	917	961
90°-100°	0.0	0.0	0.0	85°	200	169	77	169	200	256
100°-110°	0.0	0.0	0.0	90°	23	23	7	15	23	
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°	3810.8	28.5	22.3							
0°-40°	6161.4	46.1	36.0							
0°-60°	10806.9	80.8	63.2							
0°-90°	13379.6	100.0	78.2							
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°	13379.6	100.0	78.2							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	4872	4872	4872	4872	4872	4872	4872	4872	4872
5°	4919	4904	4896	4880	4796	4811	4757	4765	4740
10°	4980	4942	4980	4903	4849	4780	4733	4756	4749
15°	4841	4856	4772	4749	4702	4610	4525	4494	4494
20°	5059	5028	5012	4951	4789	4665	4527	4527	4534
25°	4581	4488	4426	4380	4311	4087	4018	4087	4102
30°	4480	4403	4203	4164	4072	3786	3778	3917	3910
35°	4087	4079	3948	3771	3678	3393	3524	3624	3640
40°	3809	3763	3694	3439	3424	3108	3285	3416	3447
45°	3751	3697	3404	3311	3211	2949	3157	3334	3350
50°	3192	3154	2822	2776	2614	2483	2637	2861	2868
55°	2868	2830	2498	2336	2167	2167	2321	2475	2514
60°	2259	2244	2059	1789	1627	1719	1874	2051	2090
65°	1827	1850	1742	1426	1249	1380	1542	1773	1812
70°	1357	1334	1287	1002	840	964	1156	1357	1395
75°	886	871	832	616	478	593	771	902	917
80°	516	501	478	339	223	316	447	509	524
85°	200	192	169	123	77	115	169	192	200
90°	23	23	23	15	7	15	15	23	23

(END OF REPORT)