

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: P412039

Luminaire Tested: **MRI-24ATR-20-L840-OPL**

Issue Date: 10/5/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P412039  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2008-915-3)  
Test Lab: INNOVATION CENTER  
Issue Date: 10/5/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: MRI-24ATR-20-L840-OPL  
Description: 2X4 TROFFER, 2000LM, OPAL LENS  
Light Source: (1008) 4000K CCT, 80 CRI LED'S  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2086.0 lumens  
Efficiency: N/A  
Efficacy: 80.9 lumens/watt  
Spacing Criteria (0/90/45): 1.27 / 1.26 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

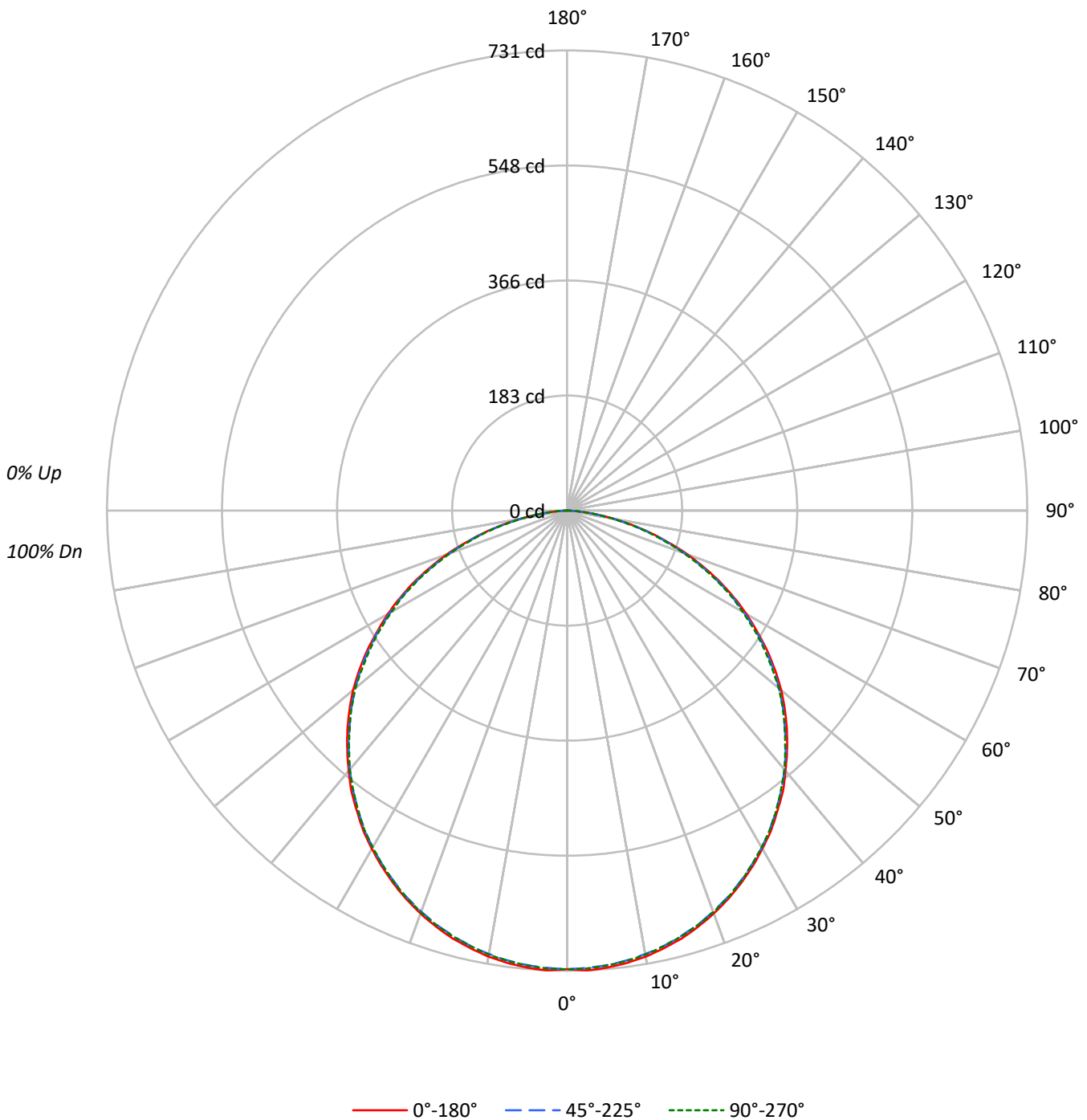
Input Watts (W): 25.8  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				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	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	109	104	100	96	106	102	98	94	98	94	91		94	91	89		90	88	86	84
2	99	91	84	78	96	89	82	77	85	80	75		82	77	74		79	75	72	70
3	90	80	71	65	88	78	70	64	75	68	63		72	67	62		70	65	61	59
4	82	70	62	55	80	69	61	54	67	59	54		64	58	53		62	57	52	50
5	76	63	54	47	74	62	53	47	60	52	46		58	51	46		56	50	45	43
6	70	57	48	41	68	56	47	41	54	46	40		52	45	40		50	44	40	38
7	65	51	42	36	63	50	42	36	49	41	36		47	41	36		46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32		43	37	32		42	36	32	30
9	56	43	35	29	55	42	34	29	41	34	29		40	33	29		39	33	28	27
10	53	40	32	26	51	39	31	26	38	31	26		37	31	26		36	30	26	24

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

	0°	45°	90°
0°	980	980	980
5°	984	979	980
10°	983	977	979
15°	980	975	975
20°	975	971	972
25°	970	966	967
30°	964	961	960
35°	956	952	952
40°	948	944	943
45°	939	931	930
50°	929	920	919
55°	910	902	895
60°	885	873	867
65°	853	838	833
70°	799	782	773
75°	713	704	692
80°	574	572	570
85°	377	377	358



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	69.0	3.3
10°-20°	197.7	9.5
20°-30°	300.1	14.4
30°-40°	362.9	17.4
40°-50°	378.3	18.1
50°-60°	343.3	16.5
60°-70°	260.5	12.5
70°-80°	142.6	6.8
80°-90°	31.5	1.5
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	566.8	27.2
0°-40°	929.7	44.6
0°-60°	1651.4	79.2
0°-90°	2086.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2086.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	728	728	728	728	728	
5°	729	726	725	724	726	69
15°	704	701	700	699	700	198
25°	653	652	650	650	651	301
35°	582	581	580	578	580	365
45°	494	492	489	489	489	381
55°	388	386	385	383	382	346
65°	268	266	263	262	262	264
75°	137	136	136	133	133	145
85°	24	24	24	24	23	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	728.5	728.5	728.5	728.5	728.5
2.5°	731.1	728.5	727.3	726.4	727.9
5°	728.8	726.1	724.9	724.0	725.5
7.5°	724.9	722.5	721.0	720.1	721.6
10°	719.5	716.8	715.4	714.8	716.3
12.5°	711.8	709.7	708.5	707.9	708.8
15°	703.5	701.4	699.6	698.7	700.2
17.5°	693.0	690.9	689.8	688.9	690.4
20°	681.1	679.3	677.9	677.3	679.0
22.5°	668.0	666.5	665.3	664.5	666.2
25°	653.4	651.7	650.5	649.6	651.1
27.5°	637.4	635.9	634.7	633.8	635.0
30°	620.4	619.2	618.3	616.8	617.7
32.5°	602.8	600.4	599.6	599.3	600.2
35°	582.3	580.8	579.6	578.4	579.6
37.5°	562.9	560.0	558.8	558.2	558.5
40°	539.7	538.2	537.3	535.3	537.0
42.5°	517.1	515.9	513.8	512.9	512.9
45°	493.6	491.5	489.4	489.4	488.8
47.5°	469.2	467.7	465.3	464.4	464.7
50°	443.9	441.2	439.4	437.3	439.1
52.5°	416.5	414.4	412.6	410.8	409.6
55°	387.9	385.8	384.6	382.8	381.6
57.5°	357.8	357.5	355.4	353.4	352.5
60°	329.0	326.9	324.5	324.5	322.1
62.5°	298.6	296.8	295.6	292.9	293.5
65°	267.9	265.8	263.2	262.3	261.7
67.5°	234.6	233.4	231.0	228.9	229.2
70°	203.0	200.6	198.9	197.1	196.5
72.5°	169.4	167.9	166.7	164.9	163.4
75°	137.2	135.5	135.5	132.8	133.1
77.5°	105.7	104.8	103.3	102.4	101.5
80°	74.1	74.4	73.8	72.0	73.5
82.5°	47.9	47.0	46.4	46.4	46.1
85°	24.4	23.8	24.4	24.4	23.2
87.5°	7.4	8.3	8.6	8.6	8.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)