

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P563702

Luminaire Tested: FSR-24-4-LD4-4HI-40-UNV-80-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563702  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/20/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-4-LD4-4HI-40-UNV-80-87-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

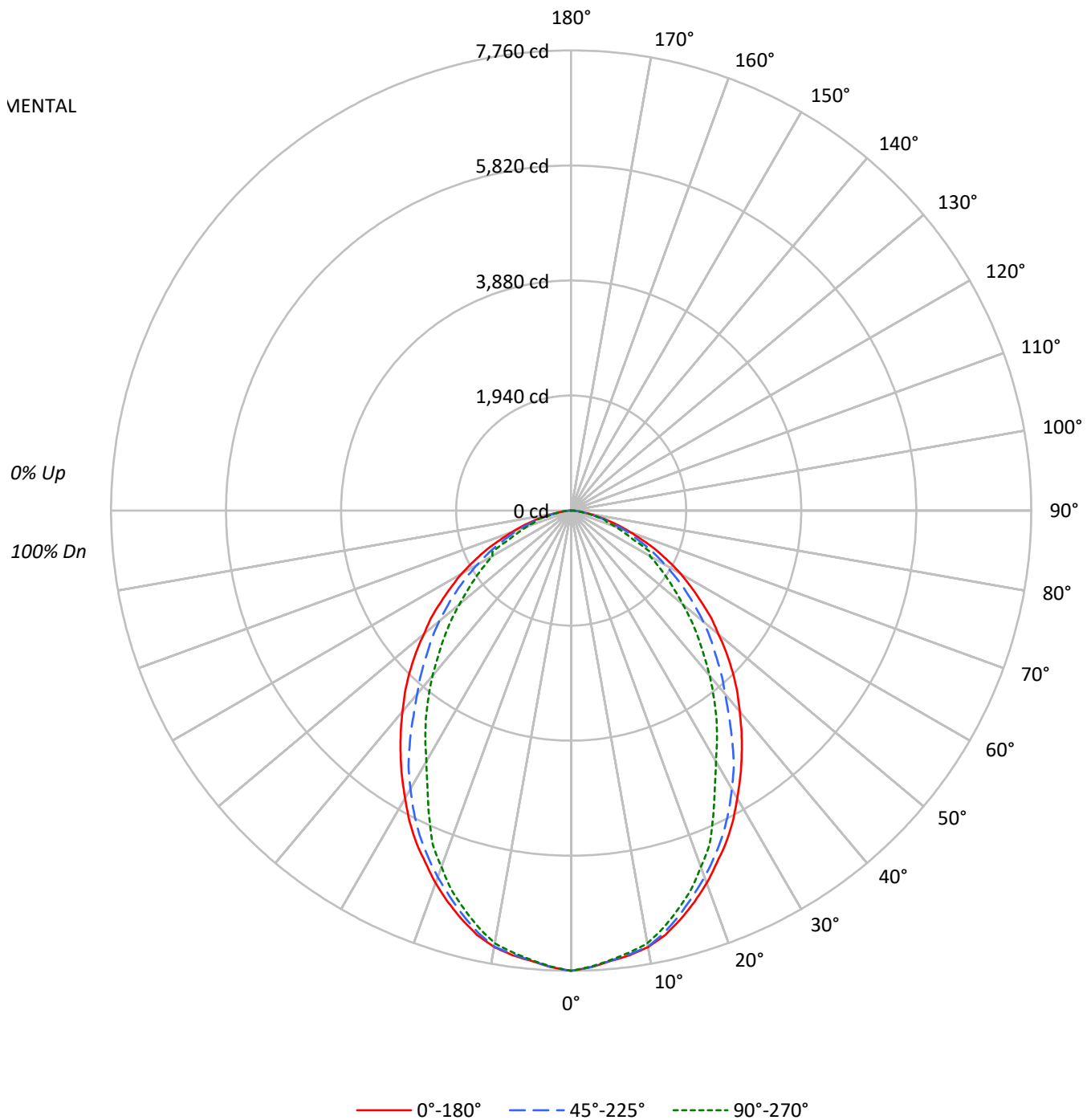
Lumens per Lamp: N/A  
Luminaire Lumens: 15235.0 lumens  
Efficiency: N/A  
Efficacy: 88.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 172.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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: 24 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	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	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

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

	0°	45°	90°
0°	10442	10442	10442
5°	10300	10288	10276
10°	10211	10198	10125
15°	9935	9835	9698
20°	9570	9416	9159
25°	9177	8977	8418
30°	8698	8419	7583
35°	8238	7781	7014
40°	7769	7091	6382
45°	7324	6555	5770
50°	6779	6085	5146
55°	6272	5514	4609
60°	5746	4925	4128
65°	5056	4313	3656
70°	4165	3777	3106
75°	3311	2891	3032
80°	2225	2086	1946
85°	1385	1663	1939

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7324 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	722.4	4.7
10°-20°	1982.6	13.0
20°-30°	2744.7	18.0
30°-40°	2926.7	19.2
40°-50°	2670.0	17.5
50°-60°	2091.7	13.7
60°-70°	1363.3	8.9
70°-80°	604.0	4.0
80°-90°	129.7	0.9
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°	5449.7	35.8
0°-40°	8376.4	55.0
0°-60°	13138.0	86.2
0°-90°	15235.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15235.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	7760	7760	7760	7760	7760	
5°	7626	7617	7617	7608	7608	724
15°	7132	7132	7061	6989	6962	2005
25°	6182	6146	6047	5832	5670	2838
35°	5015	4979	4737	4378	4270	3135
45°	3849	3768	3445	3158	3032	2965
55°	2674	2593	2351	2072	1965	2398
65°	1588	1498	1355	1382	1148	1565
75°	637	592	556	529	583	683
85°	90	99	108	117	126	124
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	7760.5	7760.5	7760.5	7760.5	7760.5
2.5°	7706.7	7706.7	7706.7	7697.7	7697.7
5°	7625.9	7617.0	7617.0	7608.0	7608.0
7.5°	7563.1	7554.2	7545.2	7536.2	7518.3
10°	7473.4	7473.4	7464.4	7419.6	7410.6
12.5°	7329.9	7320.9	7285.0	7222.2	7204.3
15°	7132.5	7132.5	7060.7	6988.9	6962.0
17.5°	6917.2	6908.2	6818.5	6746.7	6710.8
20°	6683.9	6666.0	6576.2	6459.6	6396.8
22.5°	6423.7	6423.7	6316.1	6163.5	6100.7
25°	6181.5	6145.6	6046.9	5831.6	5670.1
27.5°	5903.4	5849.5	5741.9	5436.8	5248.4
30°	5598.3	5571.4	5418.9	5024.1	4880.6
32.5°	5311.2	5266.4	5104.9	4692.2	4575.6
35°	5015.2	4979.3	4737.0	4378.2	4270.5
37.5°	4719.1	4674.2	4369.2	4082.1	3947.5
40°	4423.0	4369.2	4037.3	3777.1	3633.5
42.5°	4144.9	4073.1	3750.2	3472.0	3310.6
45°	3848.9	3768.1	3445.1	3158.0	3032.4
47.5°	3552.8	3481.0	3184.9	2888.9	2745.3
50°	3238.8	3176.0	2906.8	2610.8	2458.2
52.5°	2978.6	2879.9	2619.7	2323.7	2198.1
55°	2673.6	2592.8	2350.6	2072.5	1964.8
57.5°	2395.4	2314.7	2090.4	1830.2	1740.5
60°	2135.3	2018.6	1830.2	1605.9	1534.2
62.5°	1848.2	1758.4	1597.0	1408.6	1498.3
65°	1588.0	1498.3	1354.7	1381.6	1148.4
67.5°	1300.9	1256.0	1130.4	1004.8	968.9
70°	1058.7	1004.8	960.0	825.4	789.5
72.5°	843.3	789.5	726.7	654.9	628.0
75°	637.0	592.1	556.2	529.3	583.2
77.5°	439.6	421.7	394.8	367.8	358.9
80°	287.1	278.1	269.2	260.2	251.2
82.5°	170.5	170.5	170.5	170.5	170.5
85°	89.7	98.7	107.7	116.6	125.6
87.5°	53.8	53.8	62.8	71.8	80.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)