

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: P561330

Luminaire Tested: FSR-12-4-LD4-2HI-35-UNV-80-85-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561330  
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-12-4-LD4-2HI-35-UNV-80-85-EDD-90  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

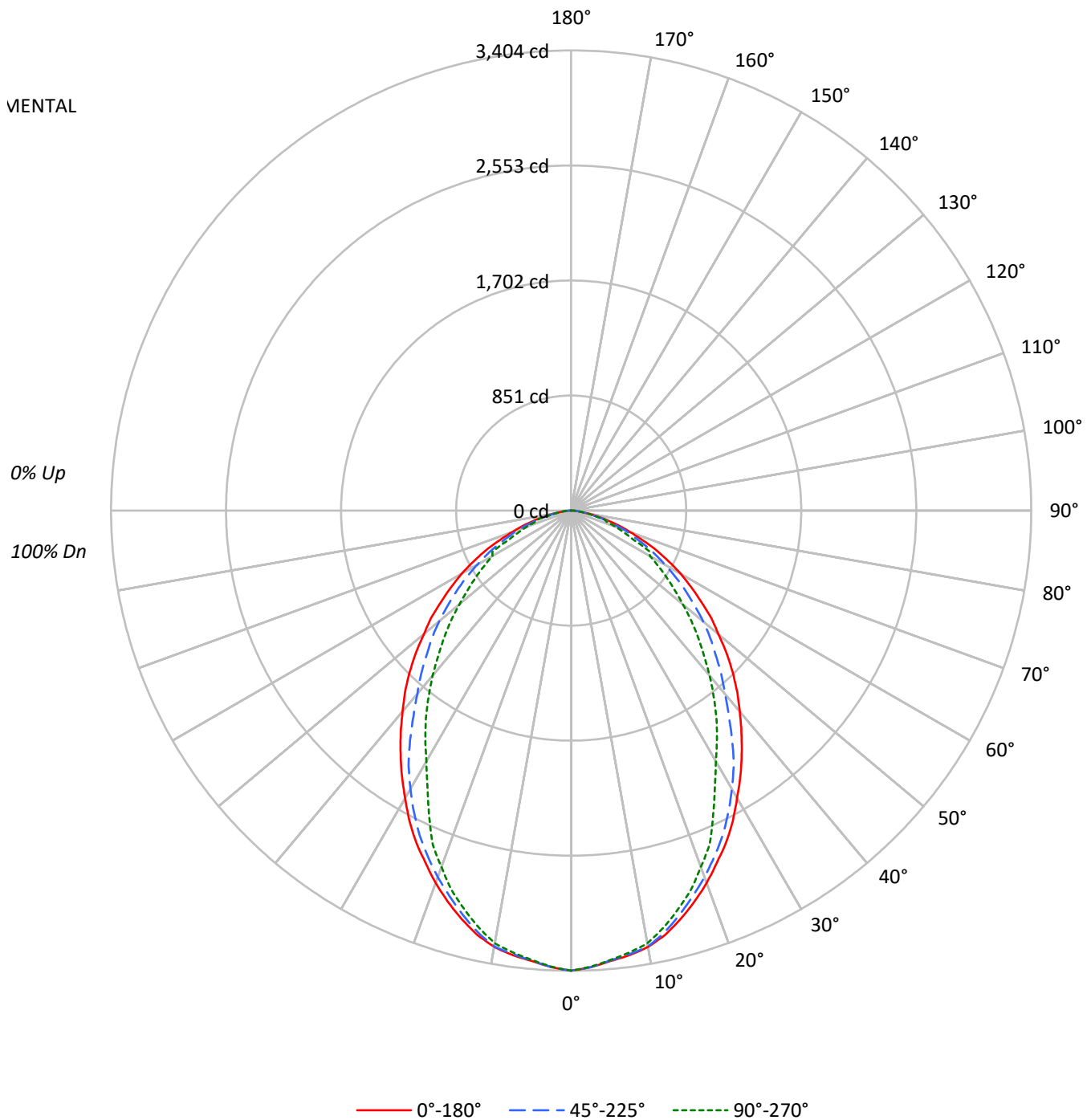
Lumens per Lamp: N/A  
Luminaire Lumens: 6682.0 lumens  
Efficiency: N/A  
Efficacy: 77.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	50	30	10	0																
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100												100																
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87												87																
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75												75																
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65												65																
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56												56																
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50												50																
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44												44																
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40												40																
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36												36																
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33												33																
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30												30																

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

	0°	45°	90°
0°	9159	9159	9159
5°	9035	9024	9014
10°	8957	8946	8881
15°	8715	8627	8507
20°	8395	8260	8034
25°	8050	7875	7384
30°	7630	7385	6651
35°	7226	6825	6153
40°	6815	6220	5598
45°	6424	5750	5061
50°	5947	5337	4514
55°	5501	4837	4043
60°	5040	4320	3622
65°	4435	3784	3207
70°	3653	3312	2725
75°	2905	2537	2660
80°	1951	1829	1708
85°	1213	1457	1701

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6424 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	316.8	4.7
10°-20°	869.5	13.0
20°-30°	1203.8	18.0
30°-40°	1283.6	19.2
40°-50°	1171.0	17.5
50°-60°	917.4	13.7
60°-70°	597.9	8.9
70°-80°	264.9	4.0
80°-90°	56.9	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°	2390.2	35.8
0°-40°	3673.8	55.0
0°-60°	5762.3	86.2
0°-90°	6682.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6682.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3404	3404	3404	3404	3404	
5°	3345	3341	3341	3337	3337	317
15°	3128	3128	3097	3065	3054	879
25°	2711	2695	2652	2558	2487	1245
35°	2200	2184	2078	1920	1873	1375
45°	1688	1653	1511	1385	1330	1300
55°	1173	1137	1031	909	862	1052
65°	696	657	594	606	504	686
75°	279	260	244	232	256	299
85°	39	43	47	51	55	55
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3403.7	3403.7	3403.7	3403.7	3403.7
2.5°	3380.1	3380.1	3380.1	3376.2	3376.2
5°	3344.7	3340.8	3340.8	3336.8	3336.8
7.5°	3317.2	3313.2	3309.3	3305.3	3297.5
10°	3277.8	3277.8	3273.9	3254.2	3250.3
12.5°	3214.8	3210.9	3195.2	3167.6	3159.8
15°	3128.3	3128.3	3096.8	3065.3	3053.5
17.5°	3033.8	3029.9	2990.6	2959.1	2943.3
20°	2931.5	2923.7	2884.3	2833.2	2805.6
22.5°	2817.4	2817.4	2770.2	2703.3	2675.8
25°	2711.2	2695.4	2652.1	2557.7	2486.9
27.5°	2589.2	2565.6	2518.4	2384.6	2301.9
30°	2455.4	2443.6	2376.7	2203.6	2140.6
32.5°	2329.5	2309.8	2239.0	2058.0	2006.8
35°	2199.6	2183.9	2077.6	1920.2	1873.0
37.5°	2069.8	2050.1	1916.3	1790.4	1731.4
40°	1939.9	1916.3	1770.7	1656.6	1593.6
42.5°	1817.9	1786.5	1644.8	1522.8	1452.0
45°	1688.1	1652.7	1511.0	1385.1	1330.0
47.5°	1558.2	1526.8	1396.9	1267.1	1204.1
50°	1420.5	1393.0	1274.9	1145.1	1078.2
52.5°	1306.4	1263.1	1149.0	1019.1	964.1
55°	1172.6	1137.2	1031.0	909.0	861.8
57.5°	1050.6	1015.2	916.8	802.7	763.4
60°	936.5	885.4	802.7	704.4	672.9
62.5°	810.6	771.2	700.4	617.8	657.1
65°	696.5	657.1	594.2	606.0	503.7
67.5°	570.6	550.9	495.8	440.7	425.0
70°	464.3	440.7	421.0	362.0	346.3
72.5°	369.9	346.3	318.7	287.3	275.4
75°	279.4	259.7	244.0	232.2	255.8
77.5°	192.8	184.9	173.1	161.3	157.4
80°	125.9	122.0	118.0	114.1	110.2
82.5°	74.8	74.8	74.8	74.8	74.8
85°	39.3	43.3	47.2	51.2	55.1
87.5°	23.6	23.6	27.5	31.5	35.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)