

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: P563675

Luminaire Tested: FSR-24-4-LD4-4HI-35-UNV-82-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563675  
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-35-UNV-82-94-EDD  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

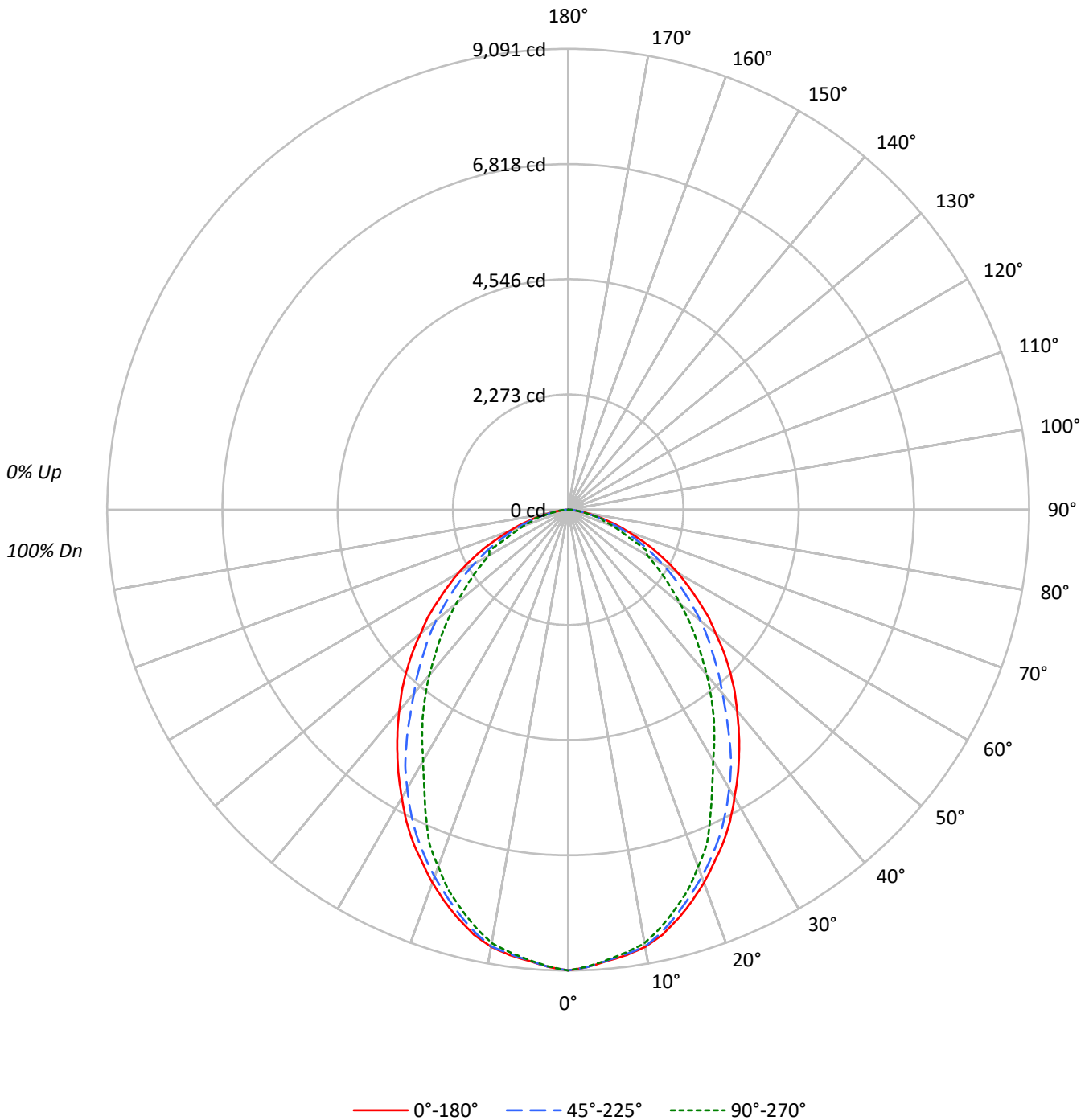
Lumens per Lamp: N/A  
Luminaire Lumens: 17847.0 lumens  
Efficiency: N/A  
Efficacy: 103.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 172.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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																		
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°	12232	12232	12232
5°	12066	12052	12037
10°	11961	11947	11861
15°	11639	11522	11360
20°	11211	11030	10729
25°	10750	10516	9861
30°	10189	9862	8883
35°	9650	9115	8217
40°	9101	8307	7476
45°	8579	7679	6759
50°	7942	7128	6028
55°	7347	6459	5399
60°	6731	5769	4836
65°	5922	5053	4283
70°	4879	4424	3639
75°	3879	3387	3551
80°	2606	2443	2280
85°	1623	1947	2271

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8579 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	846.3	4.7
10°-20°	2322.5	13.0
20°-30°	3215.3	18.0
30°-40°	3428.4	19.2
40°-50°	3127.7	17.5
50°-60°	2450.3	13.7
60°-70°	1597.0	8.9
70°-80°	707.5	4.0
80°-90°	151.9	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°	6384.0	35.8
0°-40°	9812.5	55.0
0°-60°	15390.5	86.2
0°-90°	17847.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	17847.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	9091	9091	9091	9091	9091	
5°	8933	8923	8923	8912	8912	848
15°	8355	8355	8271	8187	8156	2349
25°	7241	7199	7084	6831	6642	3324
35°	5875	5833	5549	5129	5003	3673
45°	4509	4414	4036	3700	3552	3473
55°	3132	3037	2754	2428	2302	2809
65°	1860	1755	1587	1618	1345	1833
75°	746	694	652	620	683	800
85°	105	116	126	137	147	146
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	9091.0	9091.0	9091.0	9091.0	9091.0
2.5°	9028.0	9028.0	9028.0	9017.5	9017.5
5°	8933.4	8922.9	8922.9	8912.4	8912.4
7.5°	8859.8	8849.3	8838.8	8828.3	8807.3
10°	8754.7	8754.7	8744.2	8691.6	8681.1
12.5°	8586.6	8576.0	8534.0	8460.4	8439.4
15°	8355.3	8355.3	8271.3	8187.2	8155.6
17.5°	8103.1	8092.6	7987.5	7903.4	7861.4
20°	7829.8	7808.8	7703.7	7567.1	7493.5
22.5°	7525.1	7525.1	7398.9	7220.3	7146.7
25°	7241.3	7199.2	7083.6	6831.4	6642.2
27.5°	6915.5	6852.4	6726.3	6369.0	6148.3
30°	6558.1	6526.6	6348.0	5885.5	5717.4
32.5°	6221.8	6169.3	5980.1	5496.7	5360.0
35°	5875.0	5833.0	5549.2	5128.8	5002.7
37.5°	5528.2	5475.6	5118.3	4782.0	4624.3
40°	5181.4	5118.3	4729.4	4424.6	4256.5
42.5°	4855.6	4771.5	4393.1	4067.3	3878.1
45°	4508.7	4414.1	4035.8	3699.5	3552.3
47.5°	4161.9	4077.8	3731.0	3384.2	3216.0
50°	3794.1	3720.5	3405.2	3058.4	2879.7
52.5°	3489.3	3373.7	3068.9	2722.1	2574.9
55°	3131.9	3037.3	2753.6	2427.8	2301.7
57.5°	2806.1	2711.5	2448.8	2144.0	2038.9
60°	2501.3	2364.7	2144.0	1881.3	1797.2
62.5°	2165.0	2059.9	1870.8	1650.0	1755.1
65°	1860.2	1755.1	1587.0	1618.5	1345.3
67.5°	1523.9	1471.4	1324.2	1177.1	1135.1
70°	1240.2	1177.1	1124.6	966.9	924.9
72.5°	987.9	924.9	851.3	767.2	735.7
75°	746.2	693.7	651.6	620.1	683.1
77.5°	515.0	494.0	462.4	430.9	420.4
80°	336.3	325.8	315.3	304.8	294.3
82.5°	199.7	199.7	199.7	199.7	199.7
85°	105.1	115.6	126.1	136.6	147.1
87.5°	63.1	63.1	73.6	84.1	94.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)