

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: P564126

Luminaire Tested: FSR-24-4-LD4-4STD-40-UNV-82-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P564126  
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-LD4-4STD-40-UNV-82-97-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

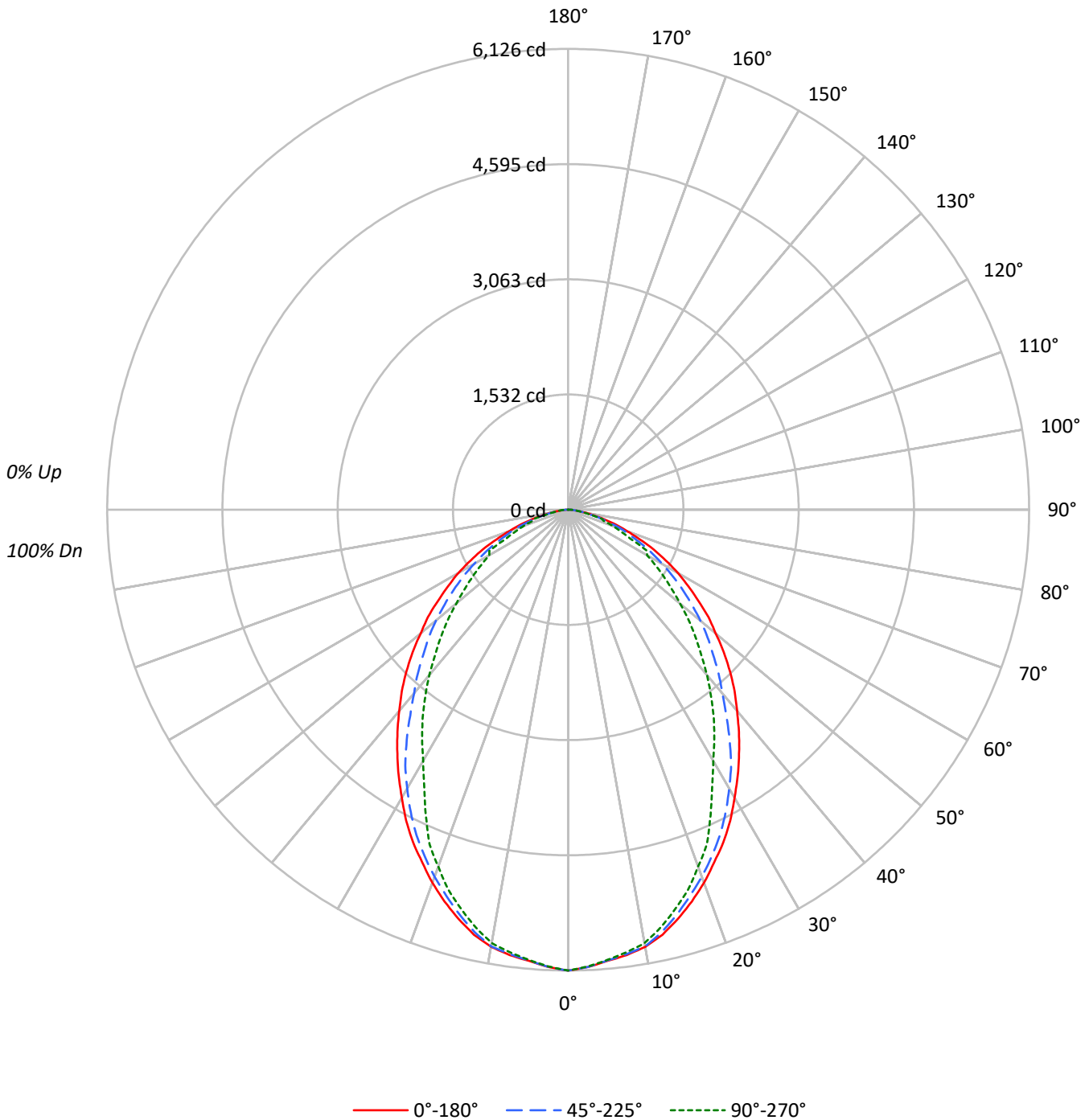
Lumens per Lamp: N/A  
Luminaire Lumens: 12027.0 lumens  
Efficiency: N/A  
Efficacy: 90.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 133.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	8243	8243	8243
5°	8131	8121	8112
10°	8061	8051	7993
15°	7843	7764	7656
20°	7555	7433	7231
25°	7245	7087	6645
30°	6866	6646	5986
35°	6503	6142	5537
40°	6133	5598	5038
45°	5781	5175	4555
50°	5352	4803	4062
55°	4951	4353	3639
60°	4536	3888	3259
65°	3991	3405	2886
70°	3288	2981	2452
75°	2614	2283	2393
80°	1756	1647	1537
85°	1093	1312	1531

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5781 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	570.3	4.7
10°-20°	1565.1	13.0
20°-30°	2166.8	18.0
30°-40°	2310.4	19.2
40°-50°	2107.8	17.5
50°-60°	1651.3	13.7
60°-70°	1076.2	8.9
70°-80°	476.8	4.0
80°-90°	102.4	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°	4302.2	35.8
0°-40°	6612.6	55.0
0°-60°	10371.6	86.2
0°-90°	12027.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12027.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6126	6126	6126	6126	6126	
5°	6020	6013	6013	6006	6006	571
15°	5631	5631	5574	5517	5496	1583
25°	4880	4852	4774	4604	4476	2240
35°	3959	3931	3740	3456	3371	2475
45°	3038	2975	2720	2493	2394	2340
55°	2111	2047	1856	1636	1551	1893
65°	1254	1183	1070	1091	907	1235
75°	503	467	439	418	460	539
85°	71	78	85	92	99	98
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6126.4	6126.4	6126.4	6126.4	6126.4
2.5°	6083.9	6083.9	6083.9	6076.8	6076.8
5°	6020.2	6013.1	6013.1	6006.0	6006.0
7.5°	5970.6	5963.5	5956.4	5949.3	5935.2
10°	5899.8	5899.8	5892.7	5857.3	5850.2
12.5°	5786.4	5779.3	5751.0	5701.4	5687.3
15°	5630.6	5630.6	5574.0	5517.3	5496.0
17.5°	5460.6	5453.6	5382.7	5326.1	5297.7
20°	5276.5	5262.3	5191.5	5099.4	5049.8
22.5°	5071.1	5071.1	4986.1	4865.7	4816.1
25°	4879.9	4851.5	4773.6	4603.6	4476.2
27.5°	4660.3	4617.8	4532.8	4292.0	4143.3
30°	4419.5	4398.3	4277.9	3966.2	3852.9
32.5°	4192.9	4157.4	4030.0	3704.2	3612.1
35°	3959.1	3930.8	3739.6	3456.3	3371.3
37.5°	3725.4	3690.0	3449.2	3222.6	3116.3
40°	3491.7	3449.2	3187.1	2981.7	2868.4
42.5°	3272.1	3215.5	2960.5	2740.9	2613.5
45°	3038.4	2974.7	2719.7	2493.1	2393.9
47.5°	2804.7	2748.0	2514.3	2280.6	2167.3
50°	2556.8	2507.2	2294.7	2061.0	1940.6
52.5°	2351.4	2273.5	2068.1	1834.4	1735.2
55°	2110.6	2046.9	1855.6	1636.1	1551.1
57.5°	1891.0	1827.3	1650.2	1444.8	1374.0
60°	1685.6	1593.6	1444.8	1267.8	1211.1
62.5°	1459.0	1388.2	1260.7	1112.0	1182.8
65°	1253.6	1182.8	1069.5	1090.7	906.6
67.5°	1027.0	991.6	892.4	793.2	764.9
70°	835.7	793.2	757.8	651.6	623.3
72.5°	665.8	623.3	573.7	517.0	495.8
75°	502.9	467.4	439.1	417.9	460.4
77.5°	347.0	332.9	311.6	290.4	283.3
80°	226.6	219.6	212.5	205.4	198.3
82.5°	134.6	134.6	134.6	134.6	134.6
85°	70.8	77.9	85.0	92.1	99.2
87.5°	42.5	42.5	49.6	56.7	63.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)