

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: P560660

Luminaire Tested: FSR-12-2-LD4-2STD-40-UNV-82-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560660  
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-12-2-LD4-2STD-40-UNV-82-86-EDD-90  
Description: 1X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

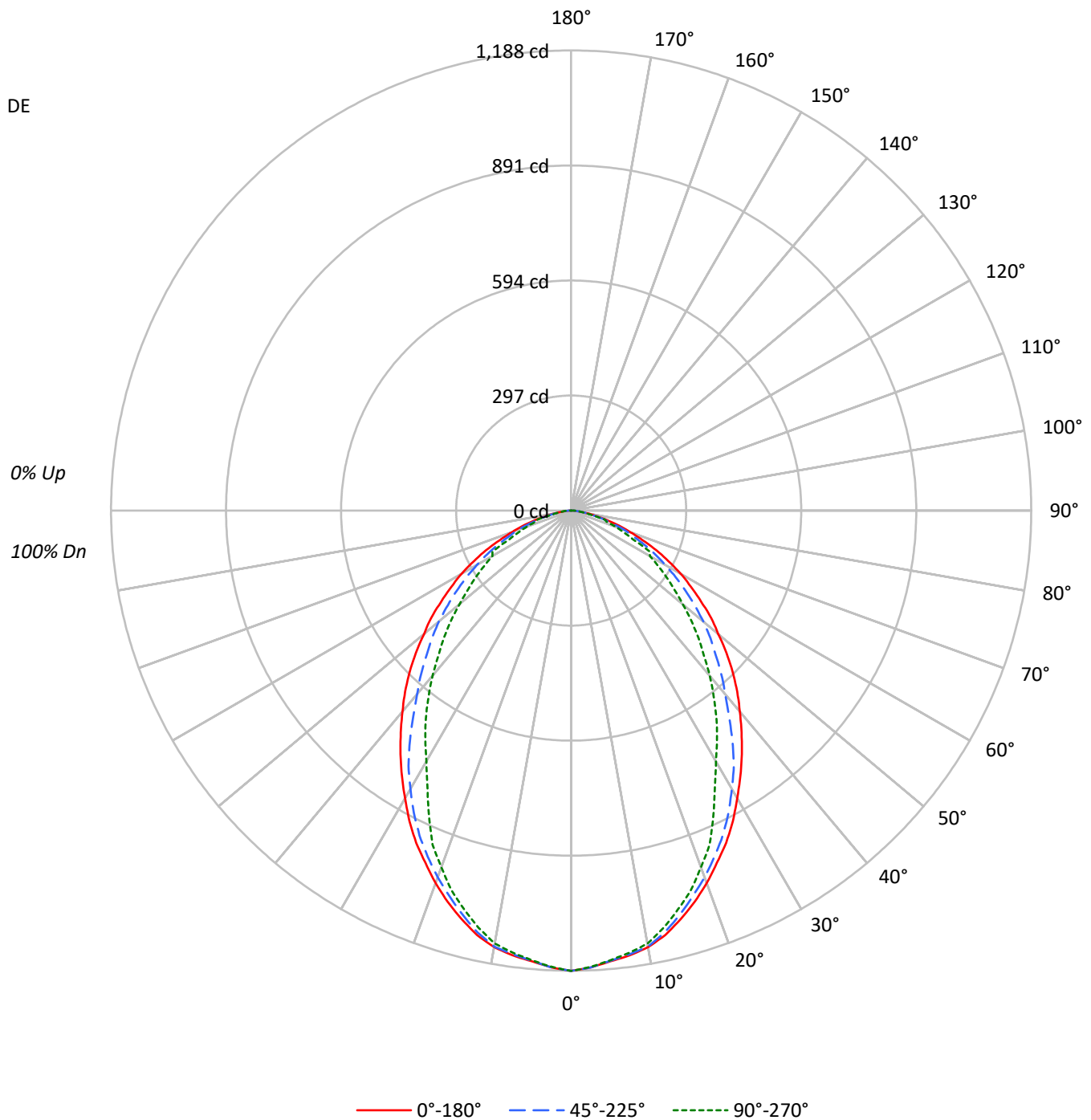
Lumens per Lamp: N/A  
Luminaire Lumens: 2333.0 lumens  
Efficiency: N/A  
Efficacy: 70.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	6396	6396	6396
5°	6309	6301	6294
10°	6254	6247	6202
15°	6086	6024	5940
20°	5862	5767	5611
25°	5621	5499	5156
30°	5328	5157	4645
35°	5046	4766	4297
40°	4758	4343	3909
45°	4486	4016	3535
50°	4153	3727	3152
55°	3841	3378	2823
60°	3520	3017	2528
65°	3097	2642	2240
70°	2551	2313	1902
75°	2027	1772	1857
80°	1364	1277	1193
85°	846	1019	1186

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4486 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	110.6	4.7
10°-20°	303.6	13.0
20°-30°	420.3	18.0
30°-40°	448.2	19.2
40°-50°	408.9	17.5
50°-60°	320.3	13.7
60°-70°	208.8	8.9
70°-80°	92.5	4.0
80°-90°	19.9	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°	834.5	35.8
0°-40°	1282.7	55.0
0°-60°	2011.9	86.2
0°-90°	2333.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2333.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1188	1188	1188	1188	1188	
5°	1168	1166	1166	1165	1165	111
15°	1092	1092	1081	1070	1066	307
25°	947	941	926	893	868	435
35°	768	762	725	670	654	480
45°	589	577	528	484	464	454
55°	409	397	360	317	301	367
65°	243	229	208	212	176	240
75°	98	91	85	81	89	105
85°	14	15	16	18	19	19
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1188.4	1188.4	1188.4	1188.4	1188.4
2.5°	1180.2	1180.2	1180.2	1178.8	1178.8
5°	1167.8	1166.4	1166.4	1165.0	1165.0
7.5°	1158.2	1156.8	1155.4	1154.1	1151.3
10°	1144.4	1144.4	1143.1	1136.2	1134.8
12.5°	1122.5	1121.1	1115.6	1106.0	1103.2
15°	1092.2	1092.2	1081.2	1070.2	1066.1
17.5°	1059.3	1057.9	1044.1	1033.2	1027.7
20°	1023.5	1020.8	1007.0	989.2	979.6
22.5°	983.7	983.7	967.2	943.8	934.2
25°	946.6	941.1	926.0	893.0	868.3
27.5°	904.0	895.8	879.3	832.6	803.7
30°	857.3	853.2	829.8	769.4	747.4
32.5°	813.3	806.5	781.7	718.5	700.7
35°	768.0	762.5	725.4	670.4	654.0
37.5°	722.7	715.8	669.1	625.1	604.5
40°	677.3	669.1	618.2	578.4	556.4
42.5°	634.7	623.7	574.3	531.7	507.0
45°	589.4	577.0	527.6	483.6	464.4
47.5°	544.1	533.1	487.7	442.4	420.4
50°	496.0	486.4	445.1	399.8	376.4
52.5°	456.1	441.0	401.2	355.8	336.6
55°	409.4	397.0	360.0	317.4	300.9
57.5°	366.8	354.5	320.1	280.3	266.5
60°	327.0	309.1	280.3	245.9	234.9
62.5°	283.0	269.3	244.5	215.7	229.4
65°	243.2	229.4	207.5	211.6	175.9
67.5°	199.2	192.3	173.1	153.9	148.4
70°	162.1	153.9	147.0	126.4	120.9
72.5°	129.1	120.9	111.3	100.3	96.2
75°	97.5	90.7	85.2	81.1	89.3
77.5°	67.3	64.6	60.5	56.3	55.0
80°	44.0	42.6	41.2	39.8	38.5
82.5°	26.1	26.1	26.1	26.1	26.1
85°	13.7	15.1	16.5	17.9	19.2
87.5°	8.2	8.2	9.6	11.0	12.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)