

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: P561091

Luminaire Tested: FSR-12-4-LD4-1LO-50-UNV-81-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561091  
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-LD4-1LO-50-UNV-81-85-EDD  
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

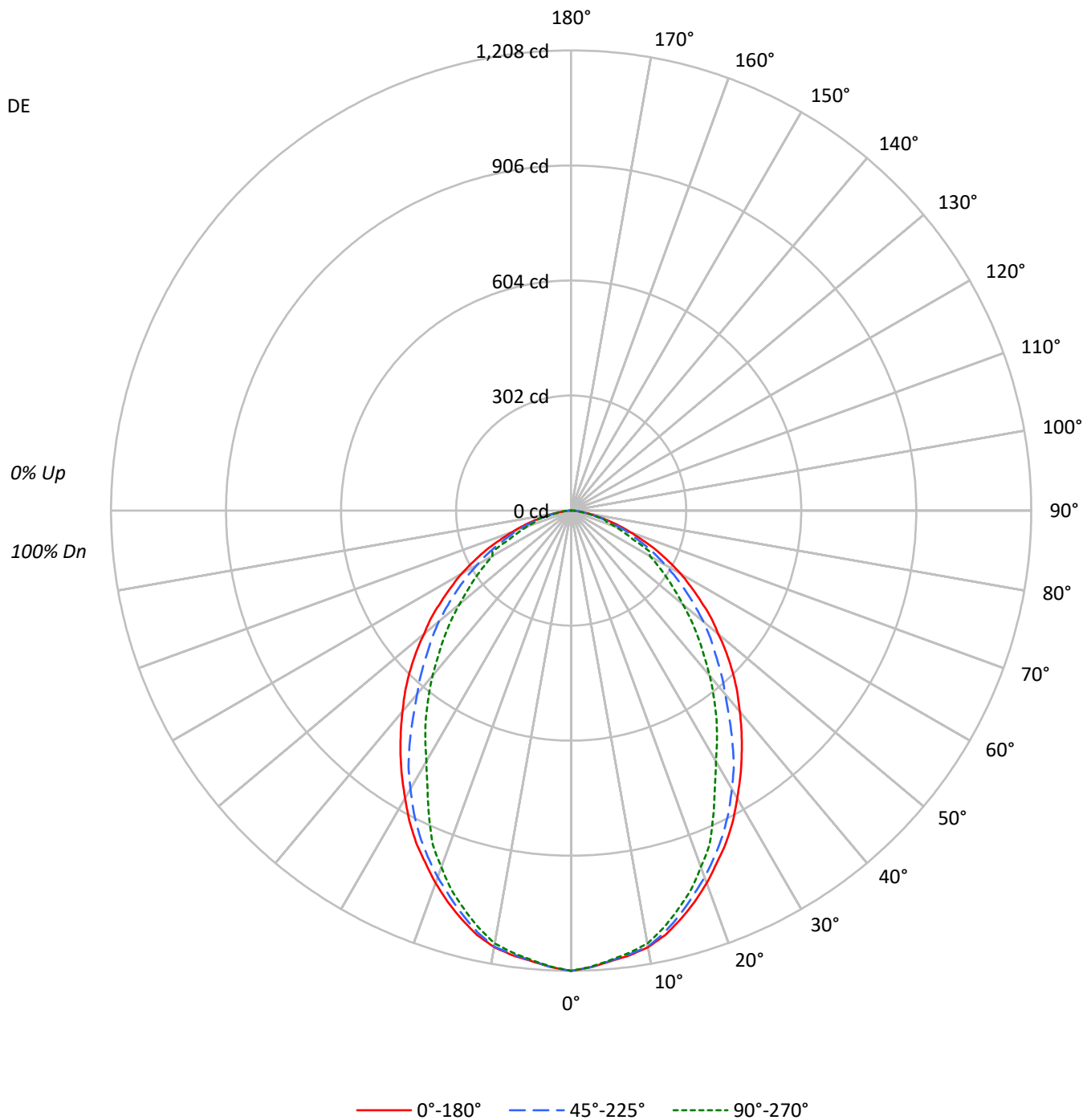
Lumens per Lamp: N/A  
Luminaire Lumens: 2372.0 lumens  
Efficiency: N/A  
Efficacy: 101.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	3252	3252	3252
5°	3207	3203	3200
10°	3180	3176	3153
15°	3094	3063	3020
20°	2980	2932	2852
25°	2858	2795	2621
30°	2708	2622	2361
35°	2565	2423	2184
40°	2419	2208	1987
45°	2280	2041	1797
50°	2111	1895	1602
55°	1953	1717	1435
60°	1789	1534	1286
65°	1574	1343	1138
70°	1297	1176	967
75°	1031	900	944
80°	693	649	606
85°	432	519	605

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2280 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	112.5	4.7
10°-20°	308.7	13.0
20°-30°	427.3	18.0
30°-40°	455.7	19.2
40°-50°	415.7	17.5
50°-60°	325.7	13.7
60°-70°	212.2	8.9
70°-80°	94.0	4.0
80°-90°	20.2	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°	848.5	35.8
0°-40°	1304.1	55.0
0°-60°	2045.5	86.2
0°-90°	2372.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2372.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1208	1208	1208	1208	1208	
5°	1187	1186	1186	1184	1184	113
15°	1110	1110	1099	1088	1084	312
25°	962	957	942	908	883	442
35°	781	775	738	682	665	488
45°	599	587	536	492	472	462
55°	416	404	366	323	306	373
65°	247	233	211	215	179	244
75°	99	92	87	82	91	106
85°	14	15	17	18	20	19
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1208.3	1208.3	1208.3	1208.3	1208.3
2.5°	1199.9	1199.9	1199.9	1198.5	1198.5
5°	1187.3	1185.9	1185.9	1184.5	1184.5
7.5°	1177.5	1176.1	1174.7	1173.3	1170.6
10°	1163.6	1163.6	1162.2	1155.2	1153.8
12.5°	1141.2	1139.8	1134.2	1124.5	1121.7
15°	1110.5	1110.5	1099.3	1088.1	1083.9
17.5°	1077.0	1075.6	1061.6	1050.4	1044.8
20°	1040.6	1037.9	1023.9	1005.7	995.9
22.5°	1000.1	1000.1	983.4	959.6	949.9
25°	962.4	956.8	941.5	907.9	882.8
27.5°	919.1	910.7	894.0	846.5	817.2
30°	871.6	867.4	843.7	782.2	759.9
32.5°	826.9	819.9	794.8	730.5	712.4
35°	780.8	775.2	737.5	681.7	664.9
37.5°	734.7	727.8	680.3	635.6	614.6
40°	688.6	680.3	628.6	588.1	565.7
42.5°	645.3	634.2	583.9	540.6	515.4
45°	599.2	586.7	536.4	491.7	472.1
47.5°	553.1	542.0	495.9	449.8	427.4
50°	504.3	494.5	452.6	406.5	382.7
52.5°	463.8	448.4	407.9	361.8	342.2
55°	416.3	403.7	366.0	322.7	305.9
57.5°	373.0	360.4	325.5	285.0	271.0
60°	332.4	314.3	285.0	250.0	238.9
62.5°	287.7	273.8	248.6	219.3	233.3
65°	247.2	233.3	210.9	215.1	178.8
67.5°	202.5	195.6	176.0	156.4	150.9
70°	164.8	156.4	149.5	128.5	122.9
72.5°	131.3	122.9	113.1	102.0	97.8
75°	99.2	92.2	86.6	82.4	90.8
77.5°	68.4	65.7	61.5	57.3	55.9
80°	44.7	43.3	41.9	40.5	39.1
82.5°	26.5	26.5	26.5	26.5	26.5
85°	14.0	15.4	16.8	18.2	19.6
87.5°	8.4	8.4	9.8	11.2	12.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)