

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: P560792

Luminaire Tested: FSR-12-4-LD4-1HI-35-UNV-82-88-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560792  
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-LD4-1HI-35-UNV-82-88-EDD-90  
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

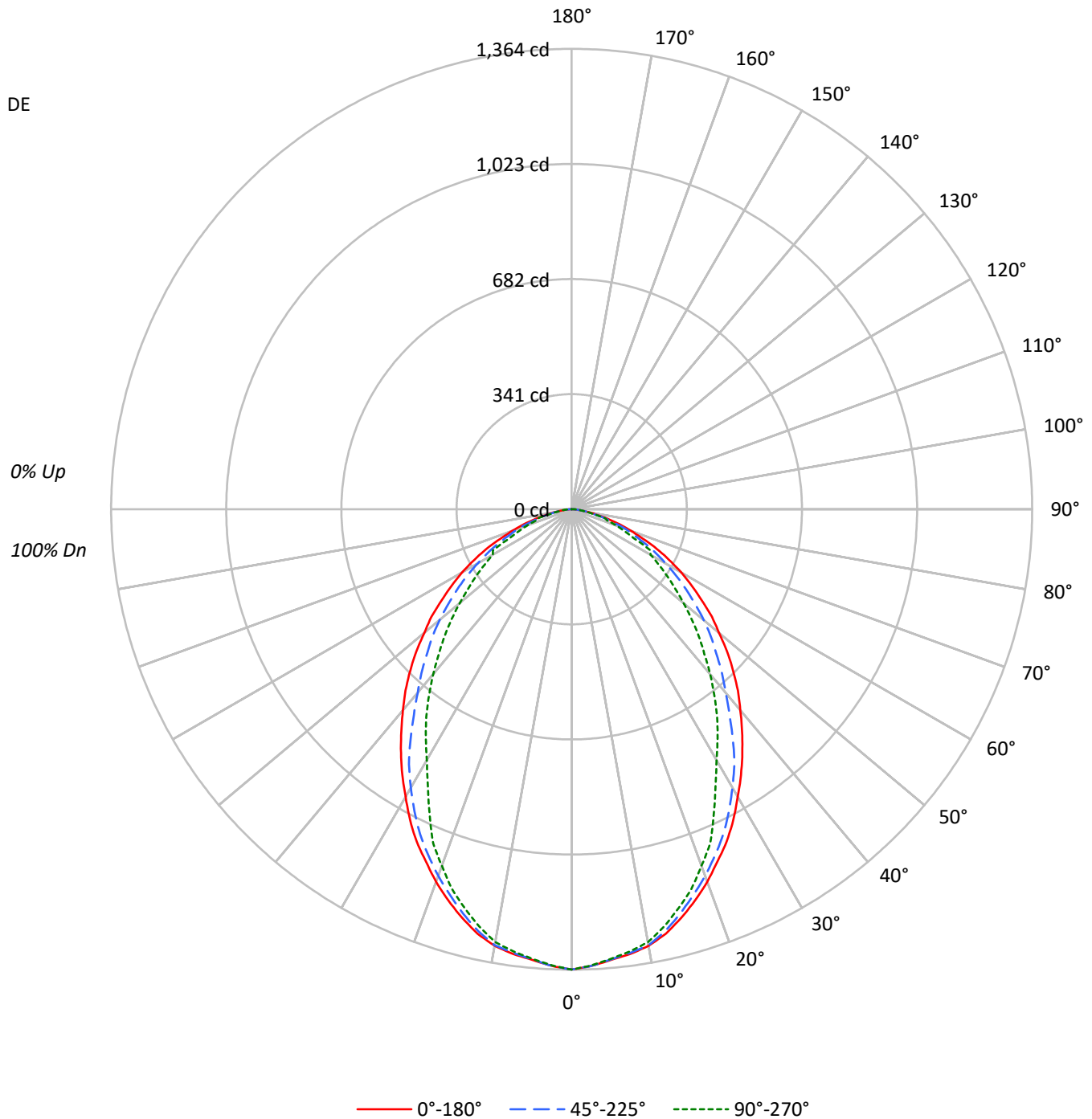
Lumens per Lamp: N/A  
Luminaire Lumens: 2677.0 lumens  
Efficiency: N/A  
Efficacy: 62.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	3669	3669	3669
5°	3620	3615	3611
10°	3588	3584	3558
15°	3492	3456	3408
20°	3363	3309	3219
25°	3225	3155	2958
30°	3057	2959	2665
35°	2895	2734	2465
40°	2730	2492	2243
45°	2574	2304	2028
50°	2382	2138	1808
55°	2204	1938	1620
60°	2019	1731	1451
65°	1777	1515	1285
70°	1463	1327	1091
75°	1163	1016	1066
80°	781	733	683
85°	488	584	682

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2574 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	126.9	4.7
10°-20°	348.4	13.0
20°-30°	482.3	18.0
30°-40°	514.3	19.2
40°-50°	469.2	17.5
50°-60°	367.5	13.7
60°-70°	239.6	8.9
70°-80°	106.1	4.0
80°-90°	22.8	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°	957.6	35.8
0°-40°	1471.8	55.0
0°-60°	2308.5	86.2
0°-90°	2677.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2677.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1364	1364	1364	1364	1364	
5°	1340	1338	1338	1337	1337	127
15°	1253	1253	1241	1228	1223	352
25°	1086	1080	1062	1025	996	499
35°	881	875	832	769	750	551
45°	676	662	605	555	533	521
55°	470	456	413	364	345	421
65°	279	263	238	243	202	275
75°	112	104	98	93	102	120
85°	16	17	19	20	22	22
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1363.6	1363.6	1363.6	1363.6	1363.6
2.5°	1354.2	1354.2	1354.2	1352.6	1352.6
5°	1340.0	1338.4	1338.4	1336.8	1336.8
7.5°	1328.9	1327.4	1325.8	1324.2	1321.1
10°	1313.2	1313.2	1311.6	1303.7	1302.1
12.5°	1288.0	1286.4	1280.1	1269.0	1265.9
15°	1253.3	1253.3	1240.7	1228.1	1223.3
17.5°	1215.4	1213.9	1198.1	1185.5	1179.2
20°	1174.5	1171.3	1155.5	1135.0	1124.0
22.5°	1128.7	1128.7	1109.8	1083.0	1072.0
25°	1086.2	1079.9	1062.5	1024.7	996.3
27.5°	1037.3	1027.8	1008.9	955.3	922.2
30°	983.7	979.0	952.2	882.8	857.6
32.5°	933.3	925.4	897.0	824.5	804.0
35°	881.2	874.9	832.4	769.3	750.4
37.5°	829.2	821.3	767.7	717.3	693.6
40°	777.2	767.7	709.4	663.7	638.5
42.5°	728.3	715.7	659.0	610.1	581.7
45°	676.3	662.1	605.4	554.9	532.8
47.5°	624.3	611.7	559.6	507.6	482.4
50°	569.1	558.1	510.8	458.7	431.9
52.5°	523.4	506.0	460.3	408.3	386.2
55°	469.8	455.6	413.0	364.2	345.2
57.5°	420.9	406.7	367.3	321.6	305.8
60°	375.2	354.7	321.6	282.2	269.6
62.5°	324.7	309.0	280.6	247.5	263.3
65°	279.0	263.3	238.0	242.8	201.8
67.5°	228.6	220.7	198.6	176.6	170.3
70°	186.0	176.6	168.7	145.0	138.7
72.5°	148.2	138.7	127.7	115.1	110.4
75°	111.9	104.0	97.7	93.0	102.5
77.5°	77.2	74.1	69.4	64.6	63.1
80°	50.4	48.9	47.3	45.7	44.1
82.5°	30.0	30.0	30.0	30.0	30.0
85°	15.8	17.3	18.9	20.5	22.1
87.5°	9.5	9.5	11.0	12.6	14.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)