

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: P561874

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-82-85-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561874  
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-LD4-2STD-50-UNV-82-85-EDD-90  
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

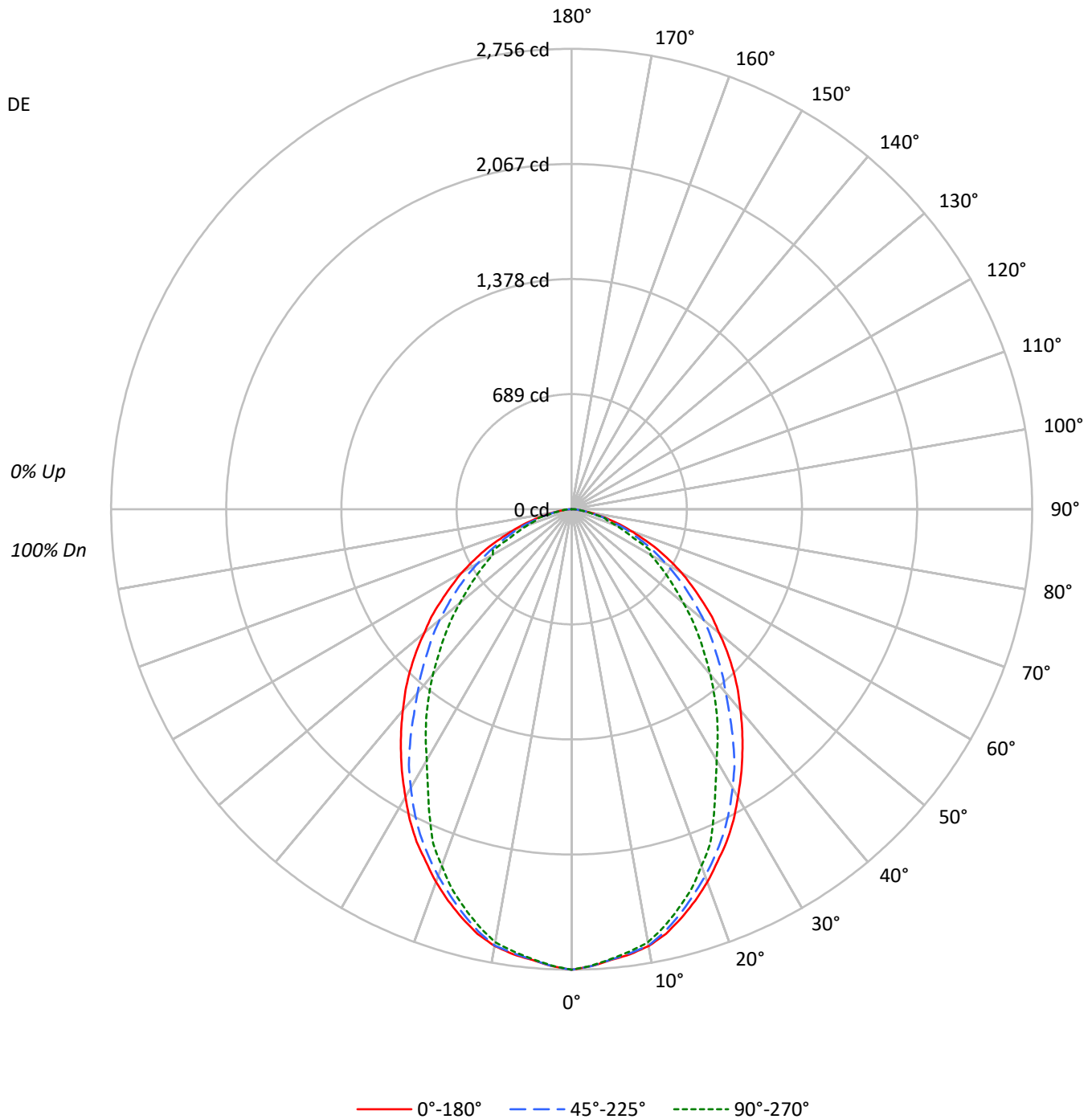
Lumens per Lamp: N/A  
Luminaire Lumens: 5411.0 lumens  
Efficiency: N/A  
Efficacy: 81.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	7417	7417	7417
5°	7316	7308	7299
10°	7253	7244	7192
15°	7057	6986	6889
20°	6798	6689	6506
25°	6519	6377	5979
30°	6179	5980	5386
35°	5851	5527	4983
40°	5518	5037	4533
45°	5202	4657	4099
50°	4816	4322	3655
55°	4455	3917	3274
60°	4082	3498	2933
65°	3591	3064	2597
70°	2958	2683	2206
75°	2352	2054	2153
80°	1581	1481	1382
85°	985	1179	1377

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5202 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	256.6	4.7
10°-20°	704.1	13.0
20°-30°	974.8	18.0
30°-40°	1039.5	19.2
40°-50°	948.3	17.5
50°-60°	742.9	13.7
60°-70°	484.2	8.9
70°-80°	214.5	4.0
80°-90°	46.0	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°	1935.6	35.8
0°-40°	2975.0	55.0
0°-60°	4666.2	86.2
0°-90°	5411.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5411.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2756	2756	2756	2756	2756	
5°	2708	2705	2705	2702	2702	257
15°	2533	2533	2508	2482	2473	712
25°	2196	2183	2148	2071	2014	1008
35°	1781	1768	1682	1555	1517	1114
45°	1367	1338	1224	1122	1077	1053
55°	950	921	835	736	698	852
65°	564	532	481	491	408	556
75°	226	210	198	188	207	242
85°	32	35	38	41	45	44
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2756.3	2756.3	2756.3	2756.3	2756.3
2.5°	2737.2	2737.2	2737.2	2734.0	2734.0
5°	2708.5	2705.3	2705.3	2702.1	2702.1
7.5°	2686.2	2683.0	2679.8	2676.6	2670.3
10°	2654.3	2654.3	2651.1	2635.2	2632.0
12.5°	2603.3	2600.2	2587.4	2565.1	2558.7
15°	2533.2	2533.2	2507.7	2482.3	2472.7
17.5°	2456.8	2453.6	2421.7	2396.2	2383.5
20°	2373.9	2367.5	2335.7	2294.3	2271.9
22.5°	2281.5	2281.5	2243.3	2189.1	2166.8
25°	2195.5	2182.7	2147.7	2071.2	2013.8
27.5°	2096.7	2077.6	2039.3	1931.0	1864.1
30°	1988.4	1978.8	1924.6	1784.4	1733.4
32.5°	1886.4	1870.5	1813.1	1666.5	1625.1
35°	1781.2	1768.5	1682.5	1555.0	1516.8
37.5°	1676.1	1660.1	1551.8	1449.8	1402.0
40°	1570.9	1551.8	1433.9	1341.5	1290.5
42.5°	1472.1	1446.7	1331.9	1233.2	1175.8
45°	1367.0	1338.3	1223.6	1121.6	1077.0
47.5°	1261.8	1236.3	1131.2	1026.0	975.1
50°	1150.3	1128.0	1032.4	927.3	873.1
52.5°	1057.9	1022.9	930.4	825.3	780.7
55°	949.6	920.9	834.9	736.1	697.8
57.5°	850.8	822.1	742.4	650.0	618.2
60°	758.4	717.0	650.0	570.4	544.9
62.5°	656.4	624.5	567.2	500.3	532.1
65°	564.0	532.1	481.2	490.7	407.9
67.5°	462.0	446.1	401.5	356.9	344.1
70°	376.0	356.9	341.0	293.2	280.4
72.5°	299.5	280.4	258.1	232.6	223.1
75°	226.2	210.3	197.6	188.0	207.1
77.5°	156.1	149.8	140.2	130.6	127.5
80°	102.0	98.8	95.6	92.4	89.2
82.5°	60.5	60.5	60.5	60.5	60.5
85°	31.9	35.1	38.2	41.4	44.6
87.5°	19.1	19.1	22.3	25.5	28.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)