

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: P561374

Luminaire Tested: FSR-12-4-LD4-2HI-35-UNV-82-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561374  
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-LD4-2HI-35-UNV-82-97-EDD-90  
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

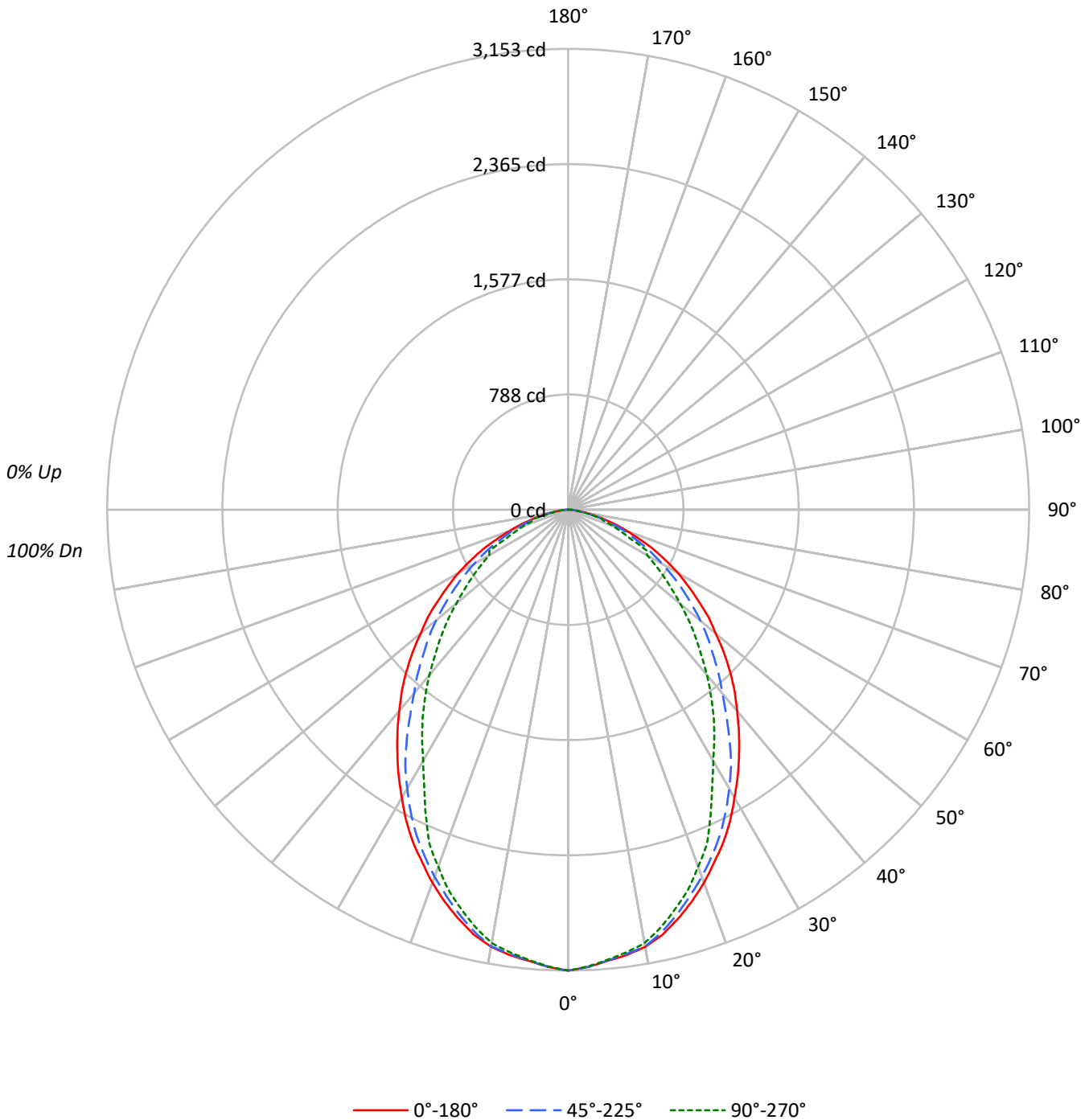
Lumens per Lamp: N/A  
Luminaire Lumens: 6190.0 lumens  
Efficiency: N/A  
Efficacy: 71.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	8485	8485	8485
5°	8370	8360	8350
10°	8297	8287	8227
15°	8073	7992	7880
20°	7777	7651	7443
25°	7457	7295	6840
30°	7068	6841	6162
35°	6694	6323	5700
40°	6313	5762	5186
45°	5951	5327	4689
50°	5509	4944	4181
55°	5096	4480	3745
60°	4669	4002	3355
65°	4108	3505	2971
70°	3384	3068	2524
75°	2691	2350	2463
80°	1807	1695	1582
85°	1127	1349	1575

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5951 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	293.5	4.7
10°-20°	805.5	13.0
20°-30°	1115.2	18.0
30°-40°	1189.1	19.2
40°-50°	1084.8	17.5
50°-60°	849.9	13.7
60°-70°	553.9	8.9
70°-80°	245.4	4.0
80°-90°	52.7	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°	2214.2	35.8
0°-40°	3403.3	55.0
0°-60°	5338.0	86.2
0°-90°	6190.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6190.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3153	3153	3153	3153	3153	
5°	3098	3095	3095	3091	3091	294
15°	2898	2898	2869	2840	2829	815
25°	2512	2497	2457	2369	2304	1153
35°	2038	2023	1925	1779	1735	1274
45°	1564	1531	1400	1283	1232	1205
55°	1086	1054	955	842	798	974
65°	645	609	550	561	467	636
75°	259	241	226	215	237	277
85°	36	40	44	47	51	51
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3153.1	3153.1	3153.1	3153.1	3153.1
2.5°	3131.2	3131.2	3131.2	3127.6	3127.6
5°	3098.4	3094.8	3094.8	3091.1	3091.1
7.5°	3072.9	3069.3	3065.6	3062.0	3054.7
10°	3036.5	3036.5	3032.8	3014.6	3010.9
12.5°	2978.1	2974.5	2959.9	2934.4	2927.1
15°	2897.9	2897.9	2868.8	2839.6	2828.7
17.5°	2810.5	2806.8	2770.4	2741.2	2726.6
20°	2715.7	2708.4	2671.9	2624.5	2599.0
22.5°	2610.0	2610.0	2566.2	2504.3	2478.7
25°	2511.5	2497.0	2456.9	2369.4	2303.8
27.5°	2398.5	2376.7	2332.9	2209.0	2132.4
30°	2274.6	2263.7	2201.7	2041.3	1983.0
32.5°	2158.0	2139.7	2074.1	1906.4	1859.1
35°	2037.7	2023.1	1924.7	1778.9	1735.1
37.5°	1917.4	1899.2	1775.2	1658.6	1603.9
40°	1797.1	1775.2	1640.3	1534.6	1476.3
42.5°	1684.1	1654.9	1523.7	1410.7	1345.1
45°	1563.8	1531.0	1399.8	1283.1	1232.1
47.5°	1443.5	1414.3	1294.0	1173.8	1115.4
50°	1315.9	1290.4	1181.0	1060.8	998.8
52.5°	1210.2	1170.1	1064.4	944.1	893.1
55°	1086.3	1053.5	955.0	842.0	798.3
57.5°	973.3	940.5	849.3	743.6	707.2
60°	867.6	820.2	743.6	652.5	623.3
62.5°	750.9	714.5	648.8	572.3	608.7
65°	645.2	608.7	550.4	561.4	466.6
67.5°	528.6	510.3	459.3	408.3	393.7
70°	430.1	408.3	390.0	335.4	320.8
72.5°	342.6	320.8	295.3	266.1	255.2
75°	258.8	240.6	226.0	215.1	236.9
77.5°	178.6	171.3	160.4	149.5	145.8
80°	116.6	113.0	109.4	105.7	102.1
82.5°	69.3	69.3	69.3	69.3	69.3
85°	36.5	40.1	43.7	47.4	51.0
87.5°	21.9	21.9	25.5	29.2	32.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)