

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: P561795

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-81-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561795  
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-40-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 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

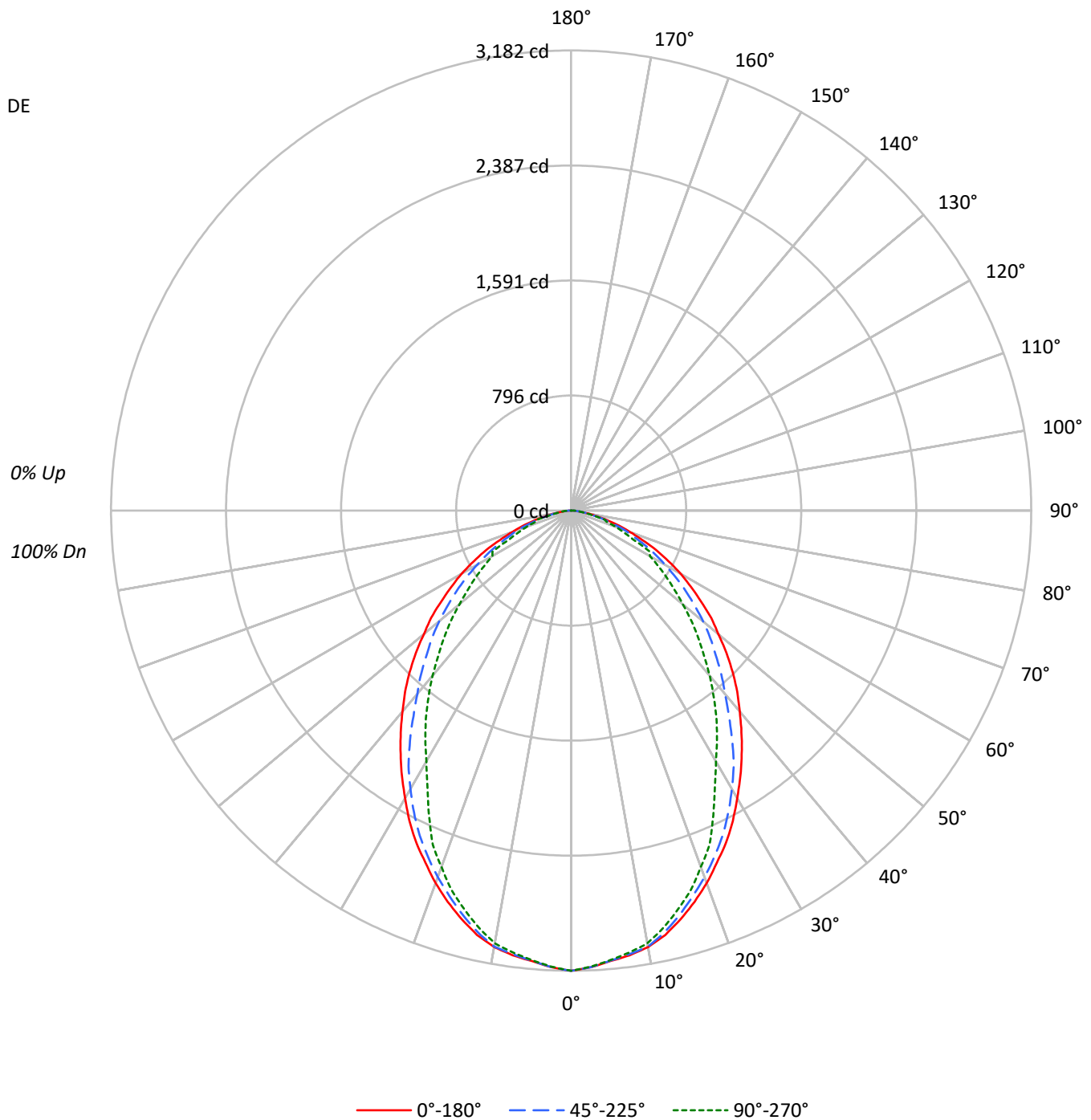
Lumens per Lamp: N/A  
Luminaire Lumens: 6247.0 lumens  
Efficiency: N/A  
Efficacy: 93.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	8563	8563	8563
5°	8447	8437	8427
10°	8373	8363	8303
15°	8148	8066	7953
20°	7848	7722	7511
25°	7526	7362	6903
30°	7133	6904	6219
35°	6755	6381	5753
40°	6371	5815	5234
45°	6006	5376	4732
50°	5560	4990	4220
55°	5143	4522	3780
60°	4712	4039	3386
65°	4146	3537	2998
70°	3415	3097	2547
75°	2716	2372	2486
80°	1824	1711	1596
85°	1136	1362	1590

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6006 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	296.2	4.7
10°-20°	812.9	13.0
20°-30°	1125.5	18.0
30°-40°	1200.1	19.2
40°-50°	1094.8	17.5
50°-60°	857.7	13.7
60°-70°	559.0	8.9
70°-80°	247.7	4.0
80°-90°	53.2	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°	2234.6	35.8
0°-40°	3434.7	55.0
0°-60°	5387.2	86.2
0°-90°	6247.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6247.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3182	3182	3182	3182	3182	
5°	3127	3123	3123	3120	3120	297
15°	2925	2925	2895	2866	2855	822
25°	2535	2520	2480	2391	2325	1164
35°	2056	2042	1942	1795	1751	1286
45°	1578	1545	1413	1295	1243	1216
55°	1096	1063	964	850	806	983
65°	651	614	556	566	471	642
75°	261	243	228	217	239	280
85°	37	40	44	48	52	51
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3182.1	3182.1	3182.1	3182.1	3182.1
2.5°	3160.1	3160.1	3160.1	3156.4	3156.4
5°	3127.0	3123.3	3123.3	3119.6	3119.6
7.5°	3101.2	3097.5	3093.8	3090.2	3082.8
10°	3064.4	3064.4	3060.7	3042.3	3038.7
12.5°	3005.6	3001.9	2987.2	2961.4	2954.1
15°	2924.6	2924.6	2895.2	2865.8	2854.7
17.5°	2836.3	2832.7	2795.9	2766.4	2751.7
20°	2740.7	2733.3	2696.5	2648.7	2623.0
22.5°	2634.0	2634.0	2589.9	2527.3	2501.6
25°	2534.7	2520.0	2479.5	2391.2	2325.0
27.5°	2420.6	2398.6	2354.4	2229.3	2152.1
30°	2295.6	2284.5	2222.0	2060.1	2001.3
32.5°	2177.8	2159.4	2093.2	1924.0	1876.2
35°	2056.4	2041.7	1942.4	1795.2	1751.1
37.5°	1935.0	1916.6	1791.6	1673.8	1618.7
40°	1813.6	1791.6	1655.4	1548.8	1489.9
42.5°	1699.6	1670.2	1537.7	1423.7	1357.5
45°	1578.2	1545.1	1412.6	1294.9	1243.4
47.5°	1456.8	1427.4	1306.0	1184.6	1125.7
50°	1328.0	1302.3	1191.9	1070.5	1008.0
52.5°	1221.4	1180.9	1074.2	952.8	901.3
55°	1096.3	1063.2	963.8	849.8	805.7
57.5°	982.2	949.1	857.2	750.5	713.7
60°	875.5	827.7	750.5	658.5	629.1
62.5°	757.8	721.0	654.8	577.6	614.4
65°	651.1	614.4	555.5	566.5	470.9
67.5°	533.4	515.0	463.5	412.0	397.3
70°	434.1	412.0	393.6	338.4	323.7
72.5°	345.8	323.7	298.0	268.6	257.5
75°	261.2	242.8	228.1	217.0	239.1
77.5°	180.3	172.9	161.9	150.8	147.2
80°	117.7	114.0	110.4	106.7	103.0
82.5°	69.9	69.9	69.9	69.9	69.9
85°	36.8	40.5	44.1	47.8	51.5
87.5°	22.1	22.1	25.8	29.4	33.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)