

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: P563012

Luminaire Tested: FSR-24-4-LD4-2STD-50-UNV-81-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563012  
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-24-4-LD4-2STD-50-UNV-81-86-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

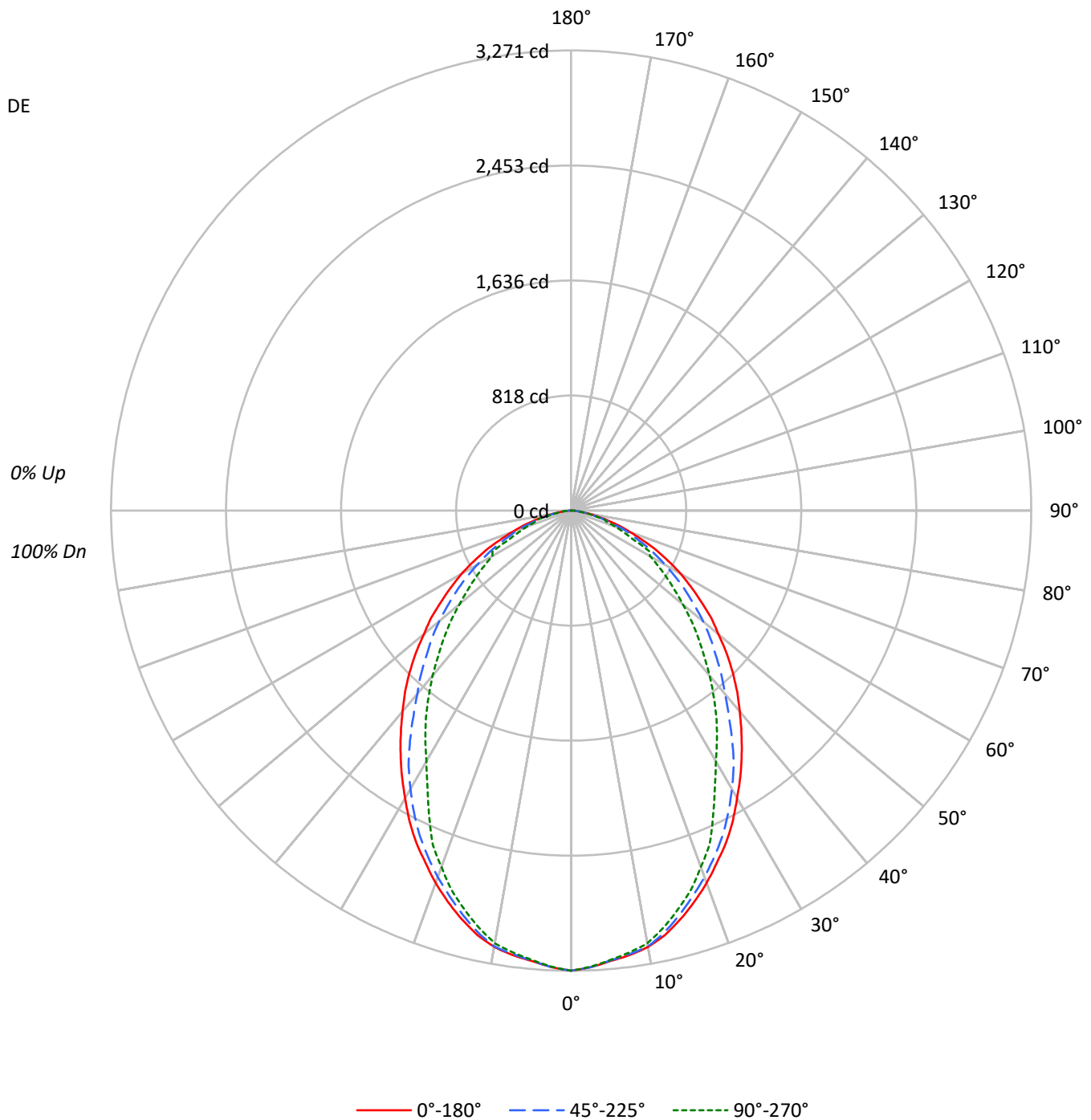
Lumens per Lamp: N/A  
Luminaire Lumens: 6421.0 lumens  
Efficiency: N/A  
Efficacy: 96.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	4401	4401	4401
5°	4341	4336	4331
10°	4303	4298	4267
15°	4187	4145	4087
20°	4033	3968	3860
25°	3868	3784	3548
30°	3666	3548	3196
35°	3472	3279	2956
40°	3274	2989	2690
45°	3087	2763	2432
50°	2857	2564	2169
55°	2643	2324	1943
60°	2422	2076	1740
65°	2131	1818	1541
70°	1755	1592	1309
75°	1396	1219	1278
80°	938	879	821
85°	584	701	817

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3087 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	304.5	4.7
10°-20°	835.6	13.0
20°-30°	1156.8	18.0
30°-40°	1233.5	19.2
40°-50°	1125.3	17.5
50°-60°	881.6	13.7
60°-70°	574.6	8.9
70°-80°	254.6	4.0
80°-90°	54.6	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°	2296.8	35.8
0°-40°	3530.3	55.0
0°-60°	5537.2	86.2
0°-90°	6421.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6421.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3271	3271	3271	3271	3271	
5°	3214	3210	3210	3206	3206	305
15°	3006	3006	2976	2946	2934	845
25°	2605	2590	2549	2458	2390	1196
35°	2114	2099	1996	1845	1800	1321
45°	1622	1588	1452	1331	1278	1250
55°	1127	1093	991	874	828	1011
65°	669	632	571	582	484	660
75°	268	250	234	223	246	288
85°	38	42	45	49	53	52
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3270.8	3270.8	3270.8	3270.8	3270.8
2.5°	3248.1	3248.1	3248.1	3244.3	3244.3
5°	3214.1	3210.3	3210.3	3206.5	3206.5
7.5°	3187.6	3183.8	3180.0	3176.2	3168.7
10°	3149.8	3149.8	3146.0	3127.1	3123.3
12.5°	3089.3	3085.5	3070.4	3043.9	3036.3
15°	3006.1	3006.1	2975.8	2945.6	2934.2
17.5°	2915.3	2911.6	2873.7	2843.5	2828.4
20°	2817.0	2809.5	2771.6	2722.5	2696.0
22.5°	2707.4	2707.4	2662.0	2597.7	2571.2
25°	2605.3	2590.1	2548.6	2457.8	2389.7
27.5°	2488.1	2465.4	2420.0	2291.4	2212.0
30°	2359.5	2348.1	2283.9	2117.5	2057.0
32.5°	2238.5	2219.6	2151.5	1977.6	1928.4
35°	2113.7	2098.6	1996.5	1845.2	1799.9
37.5°	1988.9	1970.0	1841.5	1720.5	1663.7
40°	1864.2	1841.5	1701.6	1591.9	1531.4
42.5°	1746.9	1716.7	1580.6	1463.3	1395.3
45°	1622.2	1588.1	1452.0	1331.0	1278.1
47.5°	1497.4	1467.1	1342.3	1217.6	1157.1
50°	1365.0	1338.6	1225.1	1100.3	1036.1
52.5°	1255.4	1213.8	1104.1	979.3	926.4
55°	1126.8	1092.8	990.7	873.5	828.1
57.5°	1009.6	975.6	881.0	771.4	733.6
60°	899.9	850.8	771.4	676.8	646.6
62.5°	778.9	741.1	673.1	593.7	631.5
65°	669.3	631.5	571.0	582.3	484.0
67.5°	548.3	529.4	476.4	423.5	408.4
70°	446.2	423.5	404.6	347.9	332.7
72.5°	355.4	332.7	306.3	276.0	264.7
75°	268.5	249.6	234.4	223.1	245.8
77.5°	185.3	177.7	166.4	155.0	151.2
80°	121.0	117.2	113.4	109.7	105.9
82.5°	71.8	71.8	71.8	71.8	71.8
85°	37.8	41.6	45.4	49.2	52.9
87.5°	22.7	22.7	26.5	30.2	34.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)