

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: P562951

Luminaire Tested: FSR-24-4-LD4-2STD-40-UNV-81-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562951  
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-40-UNV-81-87-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

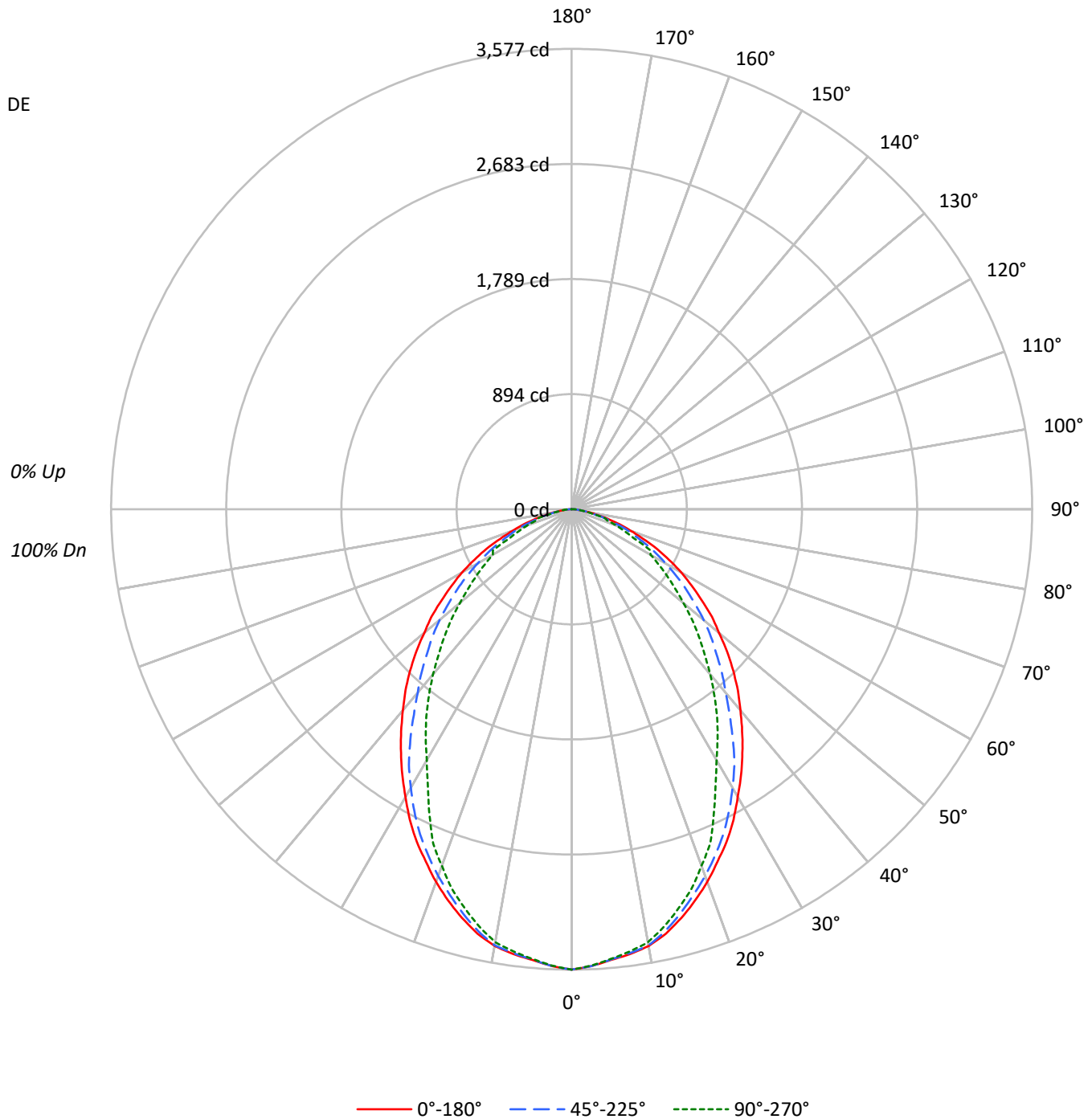
Lumens per Lamp: N/A  
Luminaire Lumens: 7022.0 lumens  
Efficiency: N/A  
Efficacy: 105.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	4813	4813	4813
5°	4747	4742	4736
10°	4706	4701	4667
15°	4579	4533	4470
20°	4411	4340	4222
25°	4230	4138	3880
30°	4009	3880	3495
35°	3797	3586	3233
40°	3581	3268	2941
45°	3376	3021	2660
50°	3125	2804	2372
55°	2891	2541	2124
60°	2648	2270	1903
65°	2330	1988	1685
70°	1919	1741	1432
75°	1526	1333	1397
80°	1025	962	897
85°	639	766	894

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3376 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	333.0	4.7
10°-20°	913.8	13.0
20°-30°	1265.1	18.0
30°-40°	1348.9	19.2
40°-50°	1230.6	17.5
50°-60°	964.1	13.7
60°-70°	628.3	8.9
70°-80°	278.4	4.0
80°-90°	59.8	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°	2511.8	35.8
0°-40°	3860.8	55.0
0°-60°	6055.5	86.2
0°-90°	7022.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7022.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3577	3577	3577	3577	3577	
5°	3515	3511	3511	3507	3507	334
15°	3288	3288	3254	3221	3209	924
25°	2849	2833	2787	2688	2613	1308
35°	2312	2295	2183	2018	1968	1445
45°	1774	1737	1588	1456	1398	1366
55°	1232	1195	1083	955	906	1105
65°	732	691	624	637	529	721
75°	294	273	256	244	269	315
85°	41	46	50	54	58	57
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3576.9	3576.9	3576.9	3576.9	3576.9
2.5°	3552.1	3552.1	3552.1	3548.0	3548.0
5°	3514.9	3510.8	3510.8	3506.6	3506.6
7.5°	3485.9	3481.8	3477.7	3473.5	3465.3
10°	3444.6	3444.6	3440.5	3419.8	3415.6
12.5°	3378.4	3374.3	3357.7	3328.8	3320.5
15°	3287.5	3287.5	3254.4	3221.3	3208.9
17.5°	3188.2	3184.1	3142.7	3109.6	3093.1
20°	3080.7	3072.4	3031.1	2977.3	2948.4
22.5°	2960.8	2960.8	2911.2	2840.9	2811.9
25°	2849.1	2832.6	2787.1	2687.9	2613.4
27.5°	2720.9	2696.1	2646.5	2505.9	2419.1
30°	2580.3	2567.9	2497.6	2315.7	2249.5
32.5°	2448.0	2427.3	2352.9	2162.7	2108.9
35°	2311.6	2295.0	2183.4	2018.0	1968.3
37.5°	2175.1	2154.4	2013.8	1881.5	1819.5
40°	2038.6	2013.8	1860.8	1740.9	1674.7
42.5°	1910.4	1877.4	1728.5	1600.3	1525.9
45°	1774.0	1736.8	1587.9	1455.6	1397.7
47.5°	1637.5	1604.4	1468.0	1331.5	1265.4
50°	1492.8	1463.8	1339.8	1203.3	1133.0
52.5°	1372.9	1327.4	1207.5	1071.0	1013.1
55°	1232.3	1195.1	1083.4	955.2	905.6
57.5°	1104.1	1066.9	963.5	843.6	802.2
60°	984.2	930.4	843.6	740.2	707.1
62.5°	851.8	810.5	736.1	649.2	690.6
65°	731.9	690.6	624.4	636.8	529.3
67.5°	599.6	578.9	521.0	463.1	446.6
70°	487.9	463.1	442.5	380.4	363.9
72.5°	388.7	363.9	334.9	301.9	289.5
75°	293.6	272.9	256.4	244.0	268.8
77.5°	202.6	194.4	181.9	169.5	165.4
80°	132.3	128.2	124.1	119.9	115.8
82.5°	78.6	78.6	78.6	78.6	78.6
85°	41.4	45.5	49.6	53.8	57.9
87.5°	24.8	24.8	28.9	33.1	37.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)