

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: P563434

Luminaire Tested: FSR-24-4-LD4-3LO-50-UNV-93-94-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563434  
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-LD4-3LO-50-UNV-93-94-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

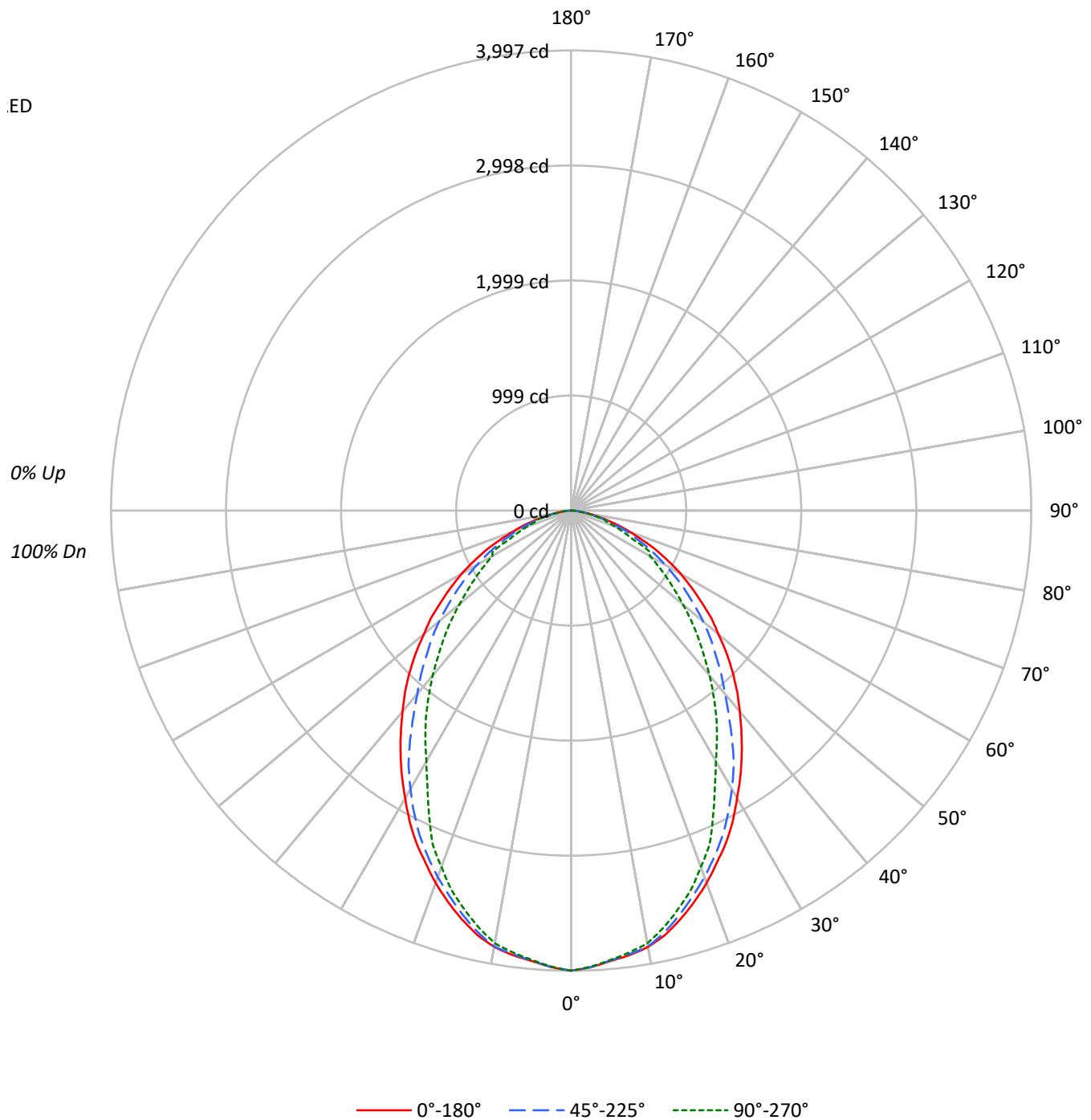
Lumens per Lamp: N/A  
Luminaire Lumens: 7846.0 lumens  
Efficiency: N/A  
Efficacy: 111.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 70.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	5377	5377	5377
5°	5304	5298	5292
10°	5258	5252	5214
15°	5117	5065	4994
20°	4929	4849	4717
25°	4726	4623	4335
30°	4479	4336	3905
35°	4242	4007	3612
40°	4001	3652	3287
45°	3772	3376	2972
50°	3491	3134	2650
55°	3230	2840	2374
60°	2959	2537	2126
65°	2604	2221	1883
70°	2145	1945	1600
75°	1705	1489	1561
80°	1146	1074	1003
85°	713	855	999

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3772 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	372.0	4.7
10°-20°	1021.0	13.0
20°-30°	1413.5	18.0
30°-40°	1507.2	19.2
40°-50°	1375.0	17.5
50°-60°	1077.2	13.7
60°-70°	702.1	8.9
70°-80°	311.1	4.0
80°-90°	66.8	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°	2806.6	35.8
0°-40°	4313.8	55.0
0°-60°	6766.1	86.2
0°-90°	7846.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7846.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3997	3997	3997	3997	3997	
5°	3927	3923	3923	3918	3918	373
15°	3673	3673	3636	3599	3585	1033
25°	3184	3165	3114	3003	2920	1462
35°	2583	2564	2440	2255	2199	1615
45°	1982	1941	1774	1626	1562	1527
55°	1377	1335	1210	1067	1012	1235
65°	818	772	698	712	591	806
75°	328	305	286	273	300	352
85°	46	51	55	60	65	64
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3996.6	3996.6	3996.6	3996.6	3996.6
2.5°	3968.9	3968.9	3968.9	3964.3	3964.3
5°	3927.3	3922.7	3922.7	3918.1	3918.1
7.5°	3895.0	3890.4	3885.8	3881.1	3871.9
10°	3848.8	3848.8	3844.2	3821.1	3816.5
12.5°	3774.9	3770.2	3751.8	3719.4	3710.2
15°	3673.2	3673.2	3636.3	3599.3	3585.4
17.5°	3562.3	3557.7	3511.5	3474.5	3456.1
20°	3442.2	3433.0	3386.8	3326.7	3294.3
22.5°	3308.2	3308.2	3252.8	3174.2	3141.9
25°	3183.5	3165.0	3114.2	3003.3	2920.1
27.5°	3040.2	3012.5	2957.1	2800.0	2702.9
30°	2883.1	2869.3	2790.7	2587.4	2513.5
32.5°	2735.3	2712.2	2629.0	2416.5	2356.4
35°	2582.8	2564.3	2439.6	2254.8	2199.3
37.5°	2430.3	2407.2	2250.1	2102.3	2033.0
40°	2277.9	2250.1	2079.2	1945.2	1871.3
42.5°	2134.6	2097.7	1931.3	1788.1	1704.9
45°	1982.2	1940.6	1774.2	1626.4	1561.7
47.5°	1829.7	1792.7	1640.2	1487.8	1413.8
50°	1668.0	1635.6	1497.0	1344.5	1266.0
52.5°	1534.0	1483.1	1349.2	1196.7	1132.0
55°	1376.9	1335.3	1210.5	1067.3	1011.9
57.5°	1233.6	1192.1	1076.6	942.6	896.4
60°	1099.7	1039.6	942.6	827.1	790.1
62.5°	951.8	905.6	822.4	725.4	771.6
65°	817.8	771.6	697.7	711.5	591.4
67.5°	670.0	646.9	582.2	517.5	499.0
70°	545.2	517.5	494.4	425.1	406.6
72.5°	434.3	406.6	374.3	337.3	323.4
75°	328.0	304.9	286.5	272.6	300.3
77.5°	226.4	217.2	203.3	189.4	184.8
80°	147.9	143.2	138.6	134.0	129.4
82.5°	87.8	87.8	87.8	87.8	87.8
85°	46.2	50.8	55.4	60.1	64.7
87.5°	27.7	27.7	32.3	37.0	41.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)