

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: P562640

Luminaire Tested: FSR-24-4-LD4-2HI-50-UNV-82-84-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562640  
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-LD4-2HI-50-UNV-82-84-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

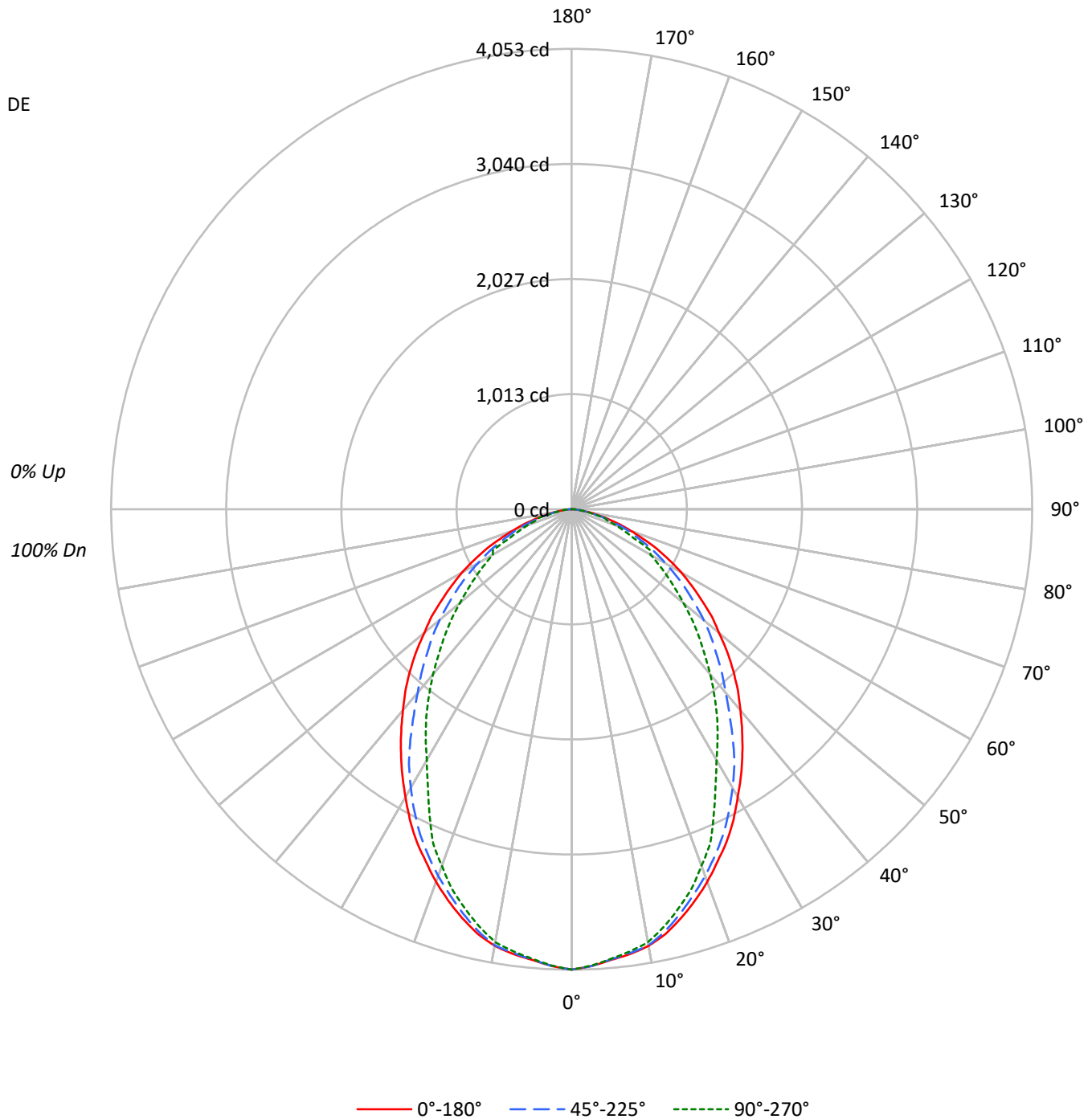
Lumens per Lamp: N/A  
Luminaire Lumens: 7956.0 lumens  
Efficiency: N/A  
Efficacy: 92.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	5453	5453	5453
5°	5379	5372	5366
10°	5332	5326	5287
15°	5188	5136	5064
20°	4998	4917	4783
25°	4792	4688	4396
30°	4542	4396	3960
35°	4302	4063	3663
40°	4057	3703	3333
45°	3824	3423	3013
50°	3540	3177	2687
55°	3275	2879	2407
60°	3001	2572	2156
65°	2640	2252	1909
70°	2175	1972	1622
75°	1729	1510	1583
80°	1161	1089	1017
85°	724	868	1013

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3824 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	377.3	4.7
10°-20°	1035.3	13.0
20°-30°	1433.3	18.0
30°-40°	1528.4	19.2
40°-50°	1394.3	17.5
50°-60°	1092.3	13.7
60°-70°	711.9	8.9
70°-80°	315.4	4.0
80°-90°	67.7	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°	2845.9	35.8
0°-40°	4374.3	55.0
0°-60°	6860.9	86.2
0°-90°	7956.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7956.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4053	4053	4053	4053	4053	
5°	3982	3978	3978	3973	3973	378
15°	3725	3725	3687	3650	3636	1047
25°	3228	3209	3158	3045	2961	1482
35°	2619	2600	2474	2286	2230	1637
45°	2010	1968	1799	1649	1584	1548
55°	1396	1354	1228	1082	1026	1252
65°	829	782	708	722	600	817
75°	333	309	290	276	304	357
85°	47	52	56	61	66	65
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4052.7	4052.7	4052.7	4052.7	4052.7
2.5°	4024.6	4024.6	4024.6	4019.9	4019.9
5°	3982.4	3977.7	3977.7	3973.0	3973.0
7.5°	3949.6	3944.9	3940.2	3935.6	3926.2
10°	3902.8	3902.8	3898.1	3874.6	3870.0
12.5°	3827.8	3823.1	3804.4	3771.6	3762.2
15°	3724.7	3724.7	3687.2	3649.8	3635.7
17.5°	3612.3	3607.6	3560.7	3523.3	3504.5
20°	3490.5	3481.1	3434.2	3373.3	3340.5
22.5°	3354.6	3354.6	3298.4	3218.7	3185.9
25°	3228.1	3209.3	3157.8	3045.4	2961.0
27.5°	3082.8	3054.7	2998.5	2839.2	2740.8
30°	2923.6	2909.5	2829.8	2623.7	2548.7
32.5°	2773.6	2750.2	2665.9	2450.3	2389.4
35°	2619.0	2600.3	2473.8	2286.4	2230.1
37.5°	2464.4	2441.0	2281.7	2131.8	2061.5
40°	2309.8	2281.7	2108.3	1972.5	1897.5
42.5°	2164.6	2127.1	1958.4	1813.2	1728.8
45°	2009.9	1967.8	1799.1	1649.2	1583.6
47.5°	1855.3	1817.8	1663.2	1508.6	1433.7
50°	1691.3	1658.6	1518.0	1363.4	1283.7
52.5°	1555.5	1503.9	1368.1	1213.5	1147.9
55°	1396.2	1354.0	1227.5	1082.3	1026.1
57.5°	1250.9	1208.8	1091.6	955.8	908.9
60°	1115.1	1054.2	955.8	838.6	801.2
62.5°	965.1	918.3	834.0	735.6	782.4
65°	829.3	782.4	707.5	721.5	599.7
67.5°	679.4	655.9	590.3	524.7	506.0
70°	552.9	524.7	501.3	431.0	412.3
72.5°	440.4	412.3	379.5	342.0	328.0
75°	332.6	309.2	290.5	276.4	304.5
77.5°	229.6	220.2	206.1	192.1	187.4
80°	149.9	145.2	140.6	135.9	131.2
82.5°	89.0	89.0	89.0	89.0	89.0
85°	46.9	51.5	56.2	60.9	65.6
87.5°	28.1	28.1	32.8	37.5	42.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)