

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: P562652

Luminaire Tested: FSR-24-4-LD4-2HI-50-UNV-82-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562652  
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-82-96-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

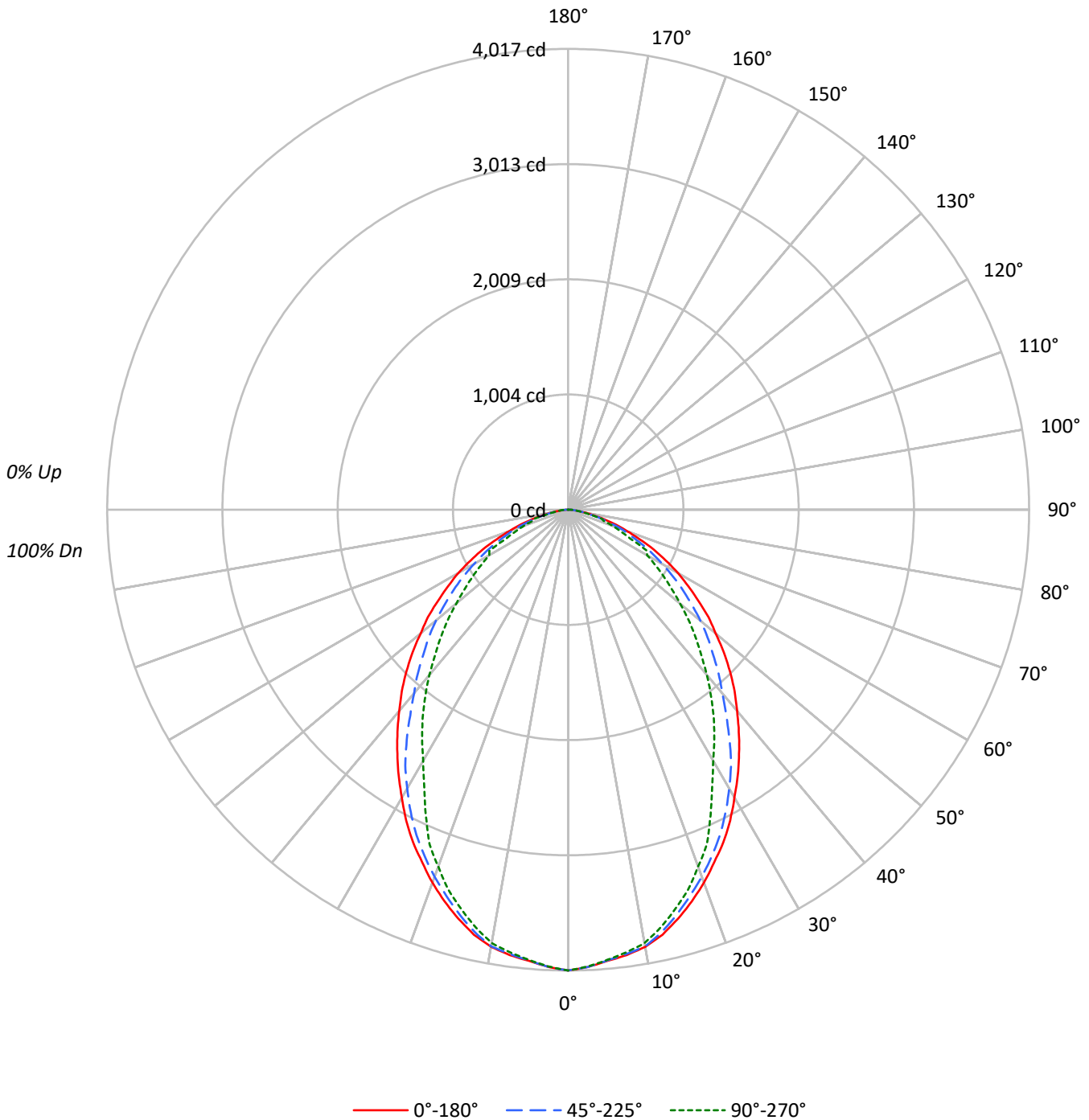
Lumens per Lamp: N/A  
Luminaire Lumens: 7886.0 lumens  
Efficiency: N/A  
Efficacy: 91.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	5405	5405	5405
5°	5331	5325	5319
10°	5285	5279	5241
15°	5143	5091	5020
20°	4954	4874	4741
25°	4750	4647	4357
30°	4502	4358	3925
35°	4264	4028	3631
40°	4021	3671	3303
45°	3791	3393	2987
50°	3509	3149	2663
55°	3246	2854	2386
60°	2974	2549	2137
65°	2617	2232	1892
70°	2156	1955	1608
75°	1714	1497	1569
80°	1151	1079	1007
85°	716	860	1003

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3791 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	373.9	4.7
10°-20°	1026.2	13.0
20°-30°	1420.7	18.0
30°-40°	1514.9	19.2
40°-50°	1382.1	17.5
50°-60°	1082.7	13.7
60°-70°	705.7	8.9
70°-80°	312.6	4.0
80°-90°	67.1	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°	2820.9	35.8
0°-40°	4335.8	55.0
0°-60°	6800.6	86.2
0°-90°	7886.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7886.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4017	4017	4017	4017	4017	
5°	3947	3943	3943	3938	3938	375
15°	3692	3692	3655	3618	3604	1038
25°	3200	3181	3130	3019	2935	1469
35°	2596	2577	2452	2266	2210	1623
45°	1992	1950	1783	1635	1570	1535
55°	1384	1342	1217	1073	1017	1241
65°	822	776	701	715	594	810
75°	330	306	288	274	302	353
85°	46	51	56	60	65	64
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4017.0	4017.0	4017.0	4017.0	4017.0
2.5°	3989.2	3989.2	3989.2	3984.5	3984.5
5°	3947.4	3942.7	3942.7	3938.1	3938.1
7.5°	3914.9	3910.2	3905.6	3900.9	3891.6
10°	3868.4	3868.4	3863.8	3840.6	3835.9
12.5°	3794.1	3789.5	3770.9	3738.4	3729.1
15°	3691.9	3691.9	3654.8	3617.6	3603.7
17.5°	3580.5	3575.8	3529.4	3492.3	3473.7
20°	3459.7	3450.5	3404.0	3343.6	3311.1
22.5°	3325.1	3325.1	3269.3	3190.4	3157.9
25°	3199.7	3181.1	3130.0	3018.6	2935.0
27.5°	3055.7	3027.9	2972.1	2814.2	2716.7
30°	2897.8	2883.9	2805.0	2600.6	2526.3
32.5°	2749.2	2726.0	2642.4	2428.8	2368.4
35°	2596.0	2577.4	2452.0	2266.3	2210.5
37.5°	2442.7	2419.5	2261.6	2113.0	2043.3
40°	2289.5	2261.6	2089.8	1955.1	1880.8
42.5°	2145.5	2108.4	1941.2	1797.2	1713.6
45°	1992.3	1950.5	1783.3	1634.7	1569.7
47.5°	1839.0	1801.9	1648.6	1495.4	1421.1
50°	1676.5	1644.0	1504.6	1351.4	1272.4
52.5°	1541.8	1490.7	1356.0	1202.8	1137.8
55°	1383.9	1342.1	1216.7	1072.8	1017.0
57.5°	1239.9	1198.1	1082.0	947.4	900.9
60°	1105.3	1044.9	947.4	831.3	794.1
62.5°	956.7	910.2	826.6	729.1	775.5
65°	822.0	775.5	701.2	715.2	594.4
67.5°	673.4	650.2	585.1	520.1	501.5
70°	548.0	520.1	496.9	427.2	408.7
72.5°	436.5	408.7	376.2	339.0	325.1
75°	329.7	306.5	287.9	274.0	301.9
77.5°	227.6	218.3	204.3	190.4	185.8
80°	148.6	144.0	139.3	134.7	130.0
82.5°	88.2	88.2	88.2	88.2	88.2
85°	46.4	51.1	55.7	60.4	65.0
87.5°	27.9	27.9	32.5	37.2	41.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)