

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: P561451

Luminaire Tested: FSR-12-4-LD4-2HI-40-UNV-93-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561451  
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-12-4-LD4-2HI-40-UNV-93-94-EDD  
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

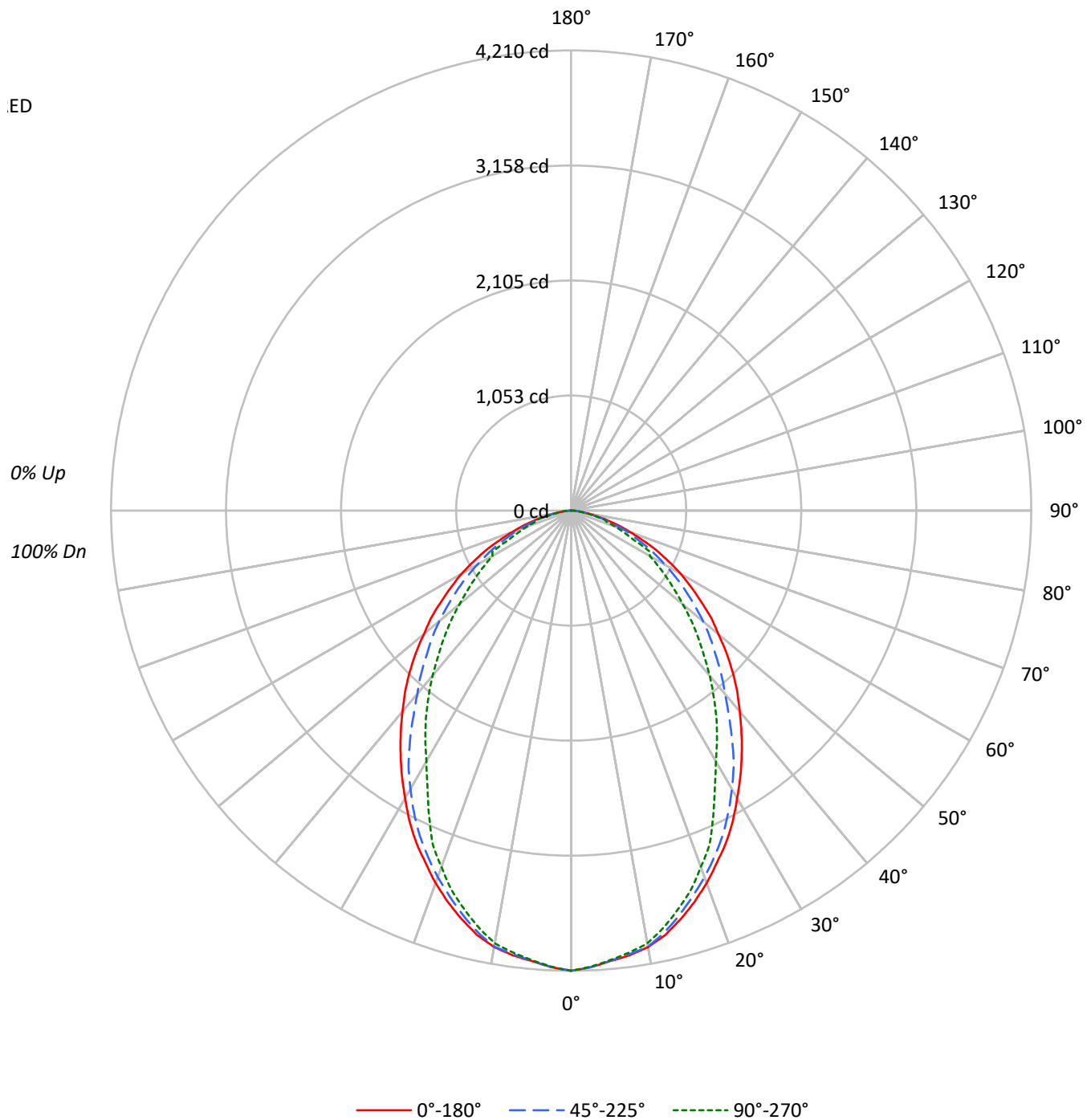
Lumens per Lamp: N/A  
Luminaire Lumens: 8265.0 lumens  
Efficiency: N/A  
Efficacy: 95.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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				
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°	11329	11329	11329
5°	11175	11162	11149
10°	11078	11065	10985
15°	10780	10671	10522
20°	10384	10216	9938
25°	9957	9740	9133
30°	9437	9135	8227
35°	8938	8442	7611
40°	8429	7694	6924
45°	7946	7113	6261
50°	7356	6602	5583
55°	6805	5983	5001
60°	6234	5344	4479
65°	5486	4679	3967
70°	4519	4098	3370
75°	3593	3138	3290
80°	2413	2263	2112
85°	1504	1803	2103

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7946 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	391.9	4.7
10°-20°	1075.5	13.0
20°-30°	1489.0	18.0
30°-40°	1587.7	19.2
40°-50°	1448.5	17.5
50°-60°	1134.8	13.7
60°-70°	739.6	8.9
70°-80°	327.7	4.0
80°-90°	70.4	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°	2956.5	35.8
0°-40°	4544.2	55.0
0°-60°	7127.4	86.2
0°-90°	8265.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8265.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4210	4210	4210	4210	4210	
5°	4137	4132	4132	4127	4127	393
15°	3869	3869	3830	3792	3777	1088
25°	3354	3334	3280	3164	3076	1540
35°	2721	2701	2570	2375	2317	1701
45°	2088	2044	1869	1713	1645	1608
55°	1450	1407	1275	1124	1066	1301
65°	862	813	735	750	623	849
75°	346	321	302	287	316	370
85°	49	54	58	63	68	68
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4210.1	4210.1	4210.1	4210.1	4210.1
2.5°	4180.9	4180.9	4180.9	4176.0	4176.0
5°	4137.1	4132.2	4132.2	4127.3	4127.3
7.5°	4103.0	4098.1	4093.3	4088.4	4078.7
10°	4054.3	4054.3	4049.5	4025.1	4020.3
12.5°	3976.5	3971.6	3952.1	3918.1	3908.3
15°	3869.4	3869.4	3830.4	3791.5	3776.9
17.5°	3752.6	3747.7	3699.0	3660.1	3640.6
20°	3626.0	3616.3	3567.6	3504.3	3470.3
22.5°	3484.9	3484.9	3426.5	3343.7	3309.7
25°	3353.5	3334.0	3280.5	3163.6	3076.0
27.5°	3202.6	3173.4	3115.0	2949.5	2847.3
30°	3037.1	3022.5	2939.8	2725.6	2647.7
32.5°	2881.3	2857.0	2769.4	2545.5	2482.2
35°	2720.7	2701.3	2569.9	2375.2	2316.8
37.5°	2560.1	2535.8	2370.3	2214.6	2141.5
40°	2399.5	2370.3	2190.2	2049.1	1971.2
42.5°	2248.6	2209.7	2034.5	1883.6	1796.0
45°	2088.0	2044.2	1869.0	1713.2	1645.1
47.5°	1927.4	1888.5	1727.8	1567.2	1489.3
50°	1757.0	1723.0	1577.0	1416.3	1333.6
52.5°	1615.9	1562.4	1421.2	1260.6	1192.5
55°	1450.4	1406.6	1275.2	1124.3	1065.9
57.5°	1299.5	1255.7	1134.0	992.9	944.2
60°	1158.4	1095.1	992.9	871.2	832.3
62.5°	1002.6	954.0	866.4	764.1	812.8
65°	861.5	812.8	734.9	749.5	623.0
67.5°	705.7	681.4	613.3	545.1	525.7
70°	574.3	545.1	520.8	447.8	428.3
72.5°	457.5	428.3	394.2	355.3	340.7
75°	345.6	321.2	301.8	287.2	316.4
77.5°	238.5	228.8	214.2	199.6	194.7
80°	155.7	150.9	146.0	141.1	136.3
82.5°	92.5	92.5	92.5	92.5	92.5
85°	48.7	53.5	58.4	63.3	68.1
87.5°	29.2	29.2	34.1	38.9	43.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)