

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: P561859

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-81-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561859  
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-LD4-2STD-50-UNV-81-85-EDD  
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

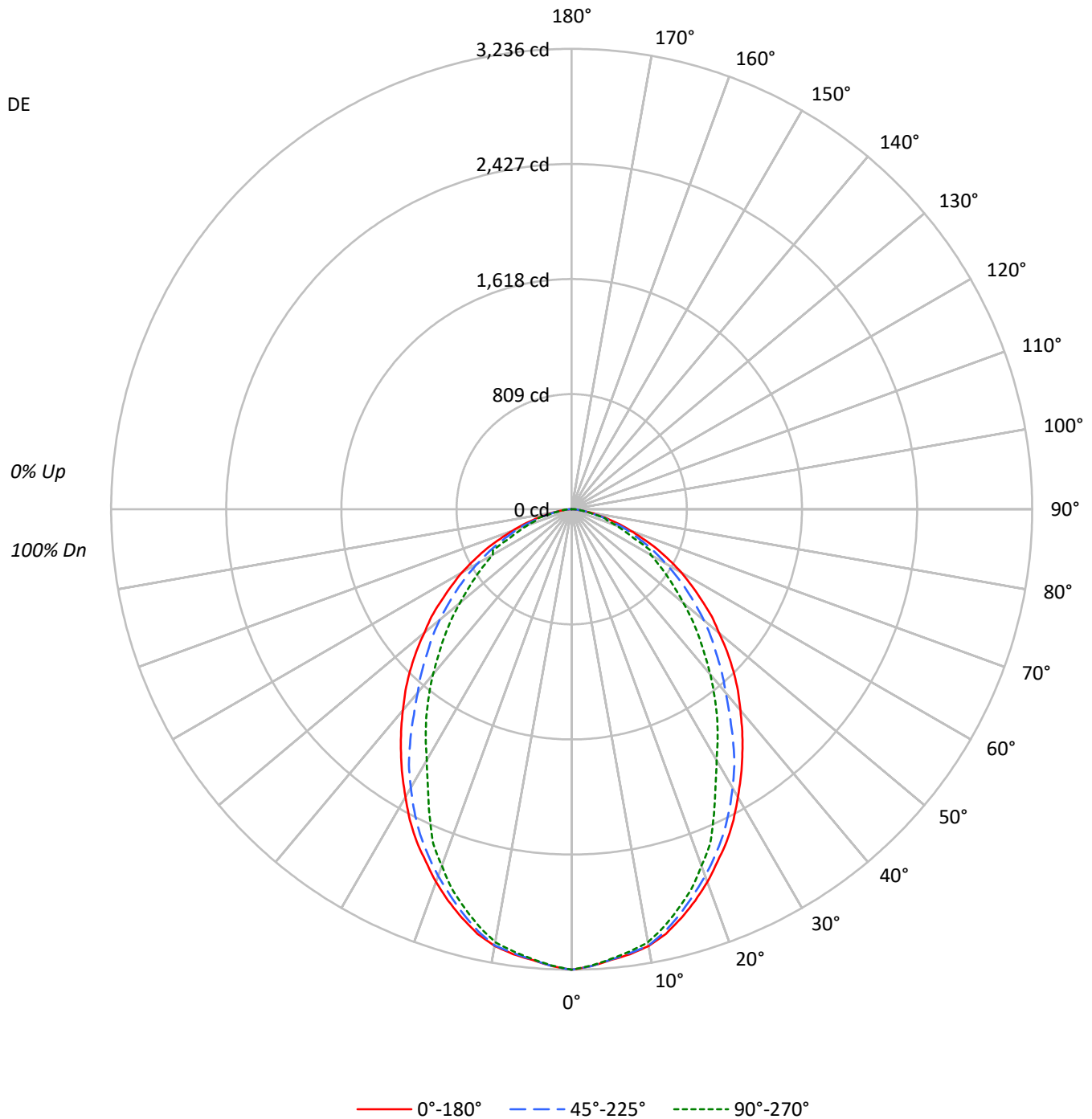
Lumens per Lamp: N/A  
Luminaire Lumens: 6353.0 lumens  
Efficiency: N/A  
Efficacy: 95.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	8708	8708	8708
5°	8590	8580	8570
10°	8516	8505	8444
15°	8286	8203	8088
20°	7982	7853	7639
25°	7654	7487	7020
30°	7254	7022	6324
35°	6870	6489	5850
40°	6479	5914	5323
45°	6108	5467	4812
50°	5654	5074	4291
55°	5231	4599	3844
60°	4792	4108	3443
65°	4216	3597	3049
70°	3474	3150	2590
75°	2761	2412	2529
80°	1855	1739	1624
85°	1155	1386	1618

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6108 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	301.2	4.7
10°-20°	826.7	13.0
20°-30°	1144.6	18.0
30°-40°	1220.4	19.2
40°-50°	1113.4	17.5
50°-60°	872.2	13.7
60°-70°	568.5	8.9
70°-80°	251.9	4.0
80°-90°	54.1	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°	2272.5	35.8
0°-40°	3493.0	55.0
0°-60°	5478.6	86.2
0°-90°	6353.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6353.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3236	3236	3236	3236	3236	
5°	3180	3176	3176	3172	3172	302
15°	2974	2974	2944	2914	2903	836
25°	2578	2563	2522	2432	2364	1183
35°	2091	2076	1975	1826	1781	1307
45°	1605	1571	1437	1317	1264	1236
55°	1115	1081	980	864	819	1000
65°	662	625	565	576	479	653
75°	266	247	232	221	243	285
85°	37	41	45	49	52	52
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3236.1	3236.1	3236.1	3236.1	3236.1
2.5°	3213.7	3213.7	3213.7	3209.9	3209.9
5°	3180.0	3176.3	3176.3	3172.5	3172.5
7.5°	3153.8	3150.1	3146.3	3142.6	3135.1
10°	3116.4	3116.4	3112.7	3094.0	3090.2
12.5°	3056.6	3052.8	3037.9	3011.7	3004.2
15°	2974.2	2974.2	2944.3	2914.4	2903.2
17.5°	2884.5	2880.7	2843.3	2813.4	2798.4
20°	2787.2	2779.7	2742.3	2693.7	2667.5
22.5°	2678.7	2678.7	2633.8	2570.2	2544.0
25°	2577.7	2562.7	2521.6	2431.8	2364.4
27.5°	2461.7	2439.3	2394.4	2267.2	2188.6
30°	2334.5	2323.3	2259.7	2095.1	2035.2
32.5°	2214.8	2196.1	2128.7	1956.6	1908.0
35°	2091.3	2076.4	1975.4	1825.7	1780.8
37.5°	1967.9	1949.2	1822.0	1702.2	1646.1
40°	1844.4	1822.0	1683.5	1575.0	1515.2
42.5°	1728.4	1698.5	1563.8	1447.8	1380.5
45°	1605.0	1571.3	1436.6	1316.9	1264.5
47.5°	1481.5	1451.6	1328.1	1204.7	1144.8
50°	1350.6	1324.4	1212.1	1088.7	1025.1
52.5°	1242.1	1200.9	1092.4	969.0	916.6
55°	1114.9	1081.2	980.2	864.2	819.3
57.5°	998.9	965.2	871.7	763.2	725.8
60°	890.4	841.8	763.2	669.7	639.7
62.5°	770.7	733.3	665.9	587.4	624.8
65°	662.2	624.8	564.9	576.1	478.9
67.5°	542.5	523.8	471.4	419.0	404.0
70°	441.5	419.0	400.3	344.2	329.2
72.5°	351.7	329.2	303.0	273.1	261.9
75°	265.6	246.9	232.0	220.7	243.2
77.5°	183.3	175.8	164.6	153.4	149.6
80°	119.7	116.0	112.2	108.5	104.8
82.5°	71.1	71.1	71.1	71.1	71.1
85°	37.4	41.2	44.9	48.6	52.4
87.5°	22.4	22.4	26.2	29.9	33.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)