

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: P561733

Luminaire Tested: FSR-12-4-LD4-2STD-35-UNV-81-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561733  
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-35-UNV-81-86-EDD  
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

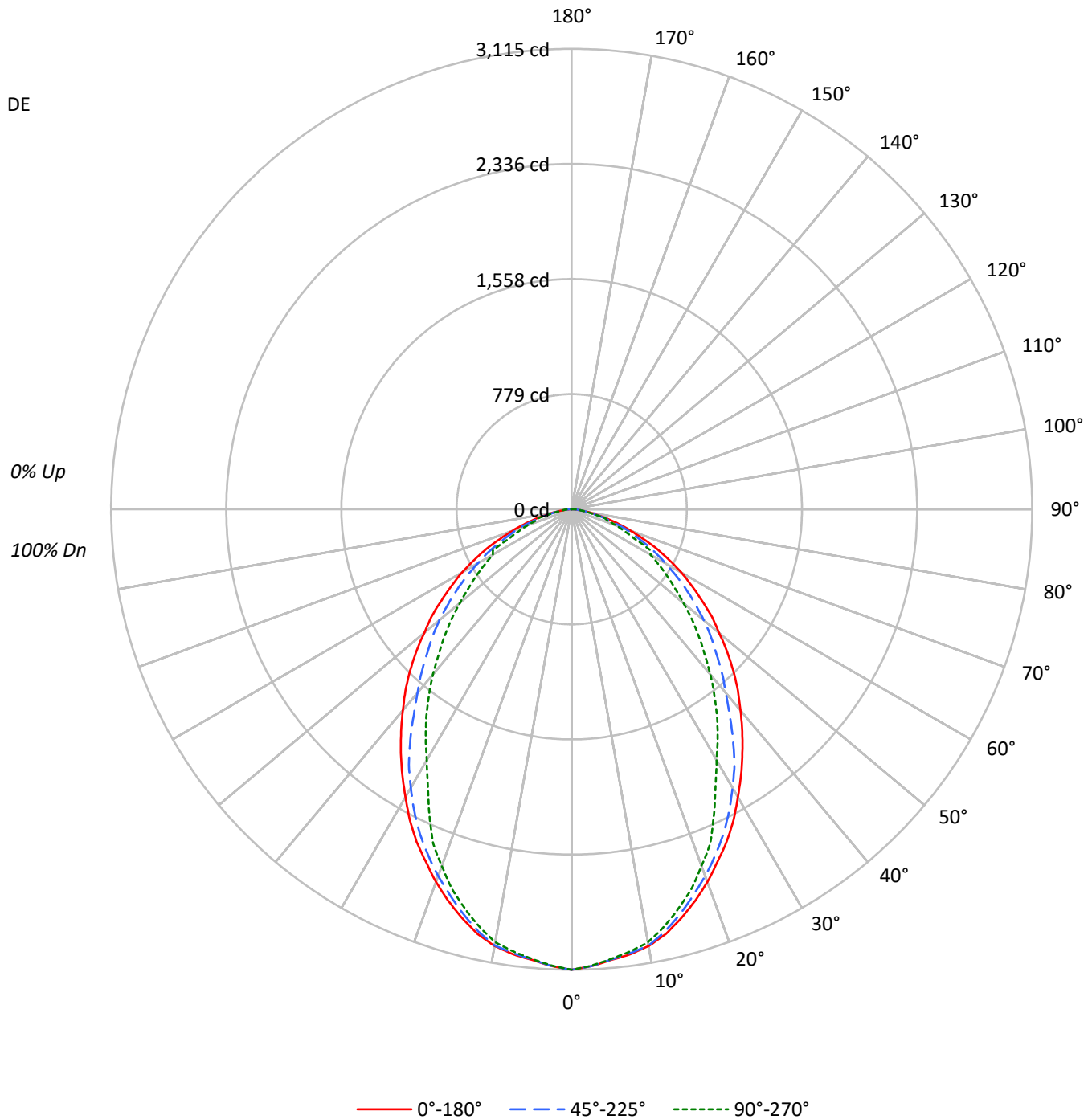
Lumens per Lamp: N/A  
Luminaire Lumens: 6116.0 lumens  
Efficiency: N/A  
Efficacy: 91.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	8383	8383	8383
5°	8270	8260	8250
10°	8198	8188	8129
15°	7977	7897	7786
20°	7684	7560	7354
25°	7368	7208	6758
30°	6983	6760	6088
35°	6614	6247	5632
40°	6237	5693	5124
45°	5880	5263	4633
50°	5443	4885	4131
55°	5035	4427	3701
60°	4613	3954	3315
65°	4059	3463	2935
70°	3344	3032	2493
75°	2659	2322	2434
80°	1787	1674	1562
85°	1112	1334	1556

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5880 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	290.0	4.7
10°-20°	795.9	13.0
20°-30°	1101.9	18.0
30°-40°	1174.9	19.2
40°-50°	1071.8	17.5
50°-60°	839.7	13.7
60°-70°	547.3	8.9
70°-80°	242.5	4.0
80°-90°	52.0	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°	2187.7	35.8
0°-40°	3362.6	55.0
0°-60°	5274.2	86.2
0°-90°	6116.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6116.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3115	3115	3115	3115	3115	
5°	3061	3058	3058	3054	3054	291
15°	2863	2863	2834	2806	2795	805
25°	2482	2467	2428	2341	2276	1139
35°	2013	1999	1902	1758	1714	1259
45°	1545	1513	1383	1268	1217	1190
55°	1073	1041	944	832	789	963
65°	638	602	544	555	461	628
75°	256	238	223	212	234	274
85°	36	40	43	47	50	50
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3115.4	3115.4	3115.4	3115.4	3115.4
2.5°	3093.8	3093.8	3093.8	3090.2	3090.2
5°	3061.4	3057.8	3057.8	3054.2	3054.2
7.5°	3036.2	3032.6	3029.0	3025.4	3018.2
10°	3000.2	3000.2	2996.6	2978.5	2974.9
12.5°	2942.5	2938.9	2924.5	2899.3	2892.1
15°	2863.3	2863.3	2834.5	2805.7	2794.9
17.5°	2776.9	2773.3	2737.2	2708.4	2694.0
20°	2683.2	2676.0	2640.0	2593.2	2568.0
22.5°	2578.8	2578.8	2535.5	2474.3	2449.1
25°	2481.5	2467.1	2427.5	2341.1	2276.2
27.5°	2369.9	2348.3	2305.0	2182.6	2107.0
30°	2247.4	2236.6	2175.4	2016.9	1959.3
32.5°	2132.2	2114.2	2049.3	1883.7	1836.8
35°	2013.3	1998.9	1901.7	1757.6	1714.4
37.5°	1894.5	1876.4	1754.0	1638.7	1584.7
40°	1775.6	1754.0	1620.7	1516.3	1458.7
42.5°	1664.0	1635.1	1505.5	1393.8	1329.0
45°	1545.1	1512.7	1383.0	1267.8	1217.4
47.5°	1426.2	1397.4	1278.6	1159.7	1102.1
50°	1300.2	1275.0	1166.9	1048.1	986.8
52.5°	1195.7	1156.1	1051.7	932.8	882.4
55°	1073.3	1040.9	943.6	832.0	788.8
57.5°	961.6	929.2	839.2	734.7	698.7
60°	857.2	810.4	734.7	644.7	615.9
62.5°	741.9	705.9	641.1	565.5	601.5
65°	637.5	601.5	543.8	554.7	461.0
67.5°	522.2	504.2	453.8	403.4	389.0
70°	425.0	403.4	385.4	331.3	316.9
72.5°	338.6	316.9	291.7	262.9	252.1
75°	255.7	237.7	223.3	212.5	234.1
77.5°	176.5	169.3	158.5	147.7	144.1
80°	115.3	111.7	108.0	104.4	100.8
82.5°	68.4	68.4	68.4	68.4	68.4
85°	36.0	39.6	43.2	46.8	50.4
87.5°	21.6	21.6	25.2	28.8	32.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)