

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: P563119

Luminaire Tested: FSR-24-4-LD4-3HI-35-UNV-93-97-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563119  
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-LD4-3HI-35-UNV-93-97-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

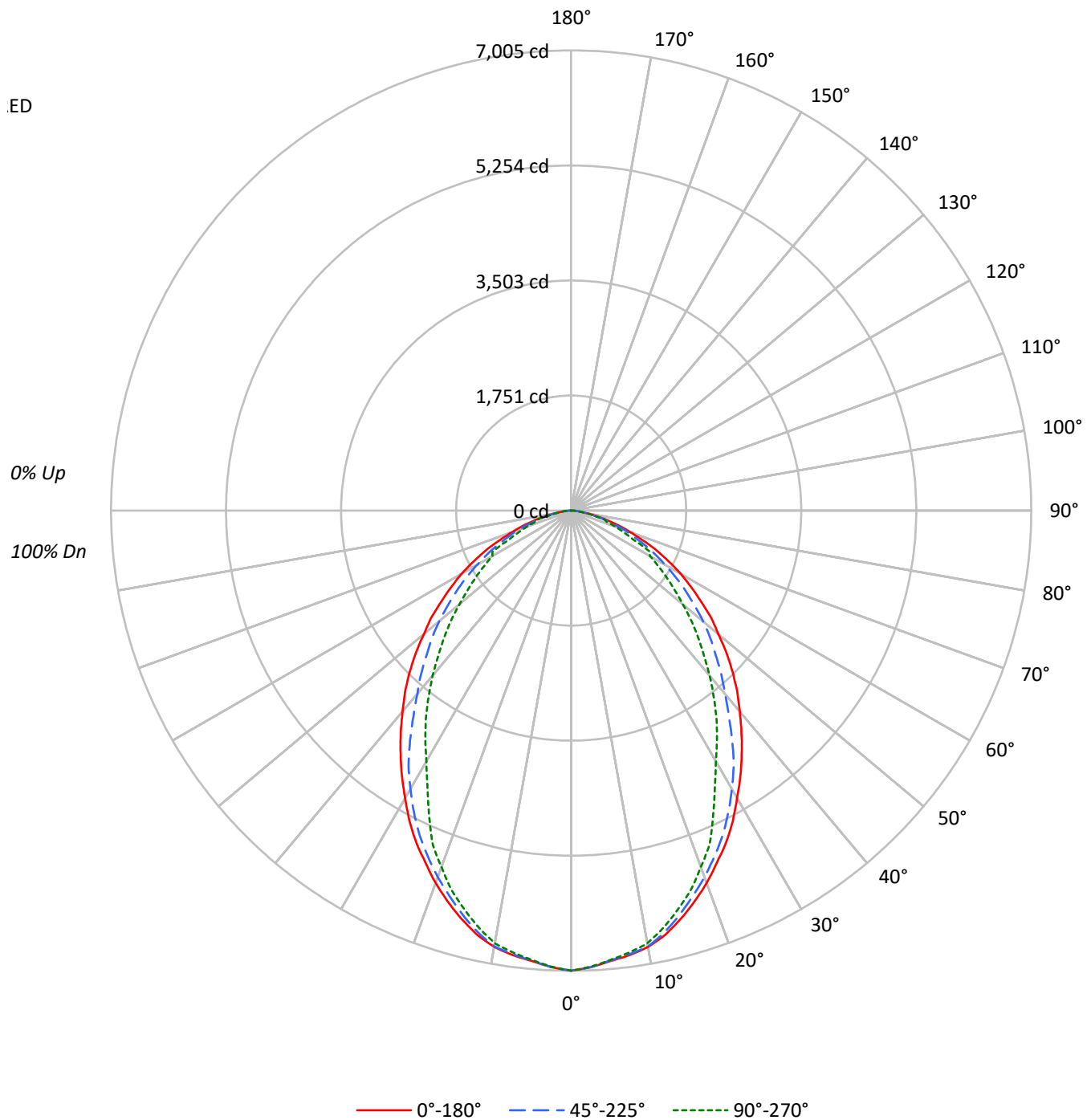
Lumens per Lamp: N/A  
Luminaire Lumens: 13751.0 lumens  
Efficiency: N/A  
Efficacy: 106.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 129.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	9425	9425	9425
5°	9297	9286	9275
10°	9216	9205	9139
15°	8967	8877	8753
20°	8638	8499	8267
25°	8283	8103	7598
30°	7851	7599	6844
35°	7435	7023	6331
40°	7012	6400	5760
45°	6610	5917	5208
50°	6119	5492	4644
55°	5661	4977	4160
60°	5186	4445	3726
65°	4563	3893	3300
70°	3759	3409	2803
75°	2989	2610	2737
80°	2008	1882	1757
85°	1250	1501	1751

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6610 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	652.0	4.7
10°-20°	1789.4	13.0
20°-30°	2477.4	18.0
30°-40°	2641.6	19.2
40°-50°	2409.9	17.5
50°-60°	1888.0	13.7
60°-70°	1230.5	8.9
70°-80°	545.2	4.0
80°-90°	117.1	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°	4918.8	35.8
0°-40°	7560.4	55.0
0°-60°	11858.3	86.2
0°-90°	13751.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13751.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	7005	7005	7005	7005	7005	
5°	6883	6875	6875	6867	6867	653
15°	6438	6438	6373	6308	6284	1810
25°	5579	5547	5458	5264	5118	2561
35°	4527	4494	4276	3952	3854	2830
45°	3474	3401	3110	2850	2737	2676
55°	2413	2340	2122	1871	1773	2164
65°	1433	1352	1223	1247	1036	1413
75°	575	534	502	478	526	616
85°	81	89	97	105	113	112
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	7004.6	7004.6	7004.6	7004.6	7004.6
2.5°	6956.0	6956.0	6956.0	6947.9	6947.9
5°	6883.1	6875.0	6875.0	6866.9	6866.9
7.5°	6826.4	6818.3	6810.2	6802.1	6785.9
10°	6745.4	6745.4	6737.3	6696.9	6688.8
12.5°	6615.9	6607.8	6575.4	6518.7	6502.5
15°	6437.7	6437.7	6372.9	6308.2	6283.9
17.5°	6243.4	6235.3	6154.3	6089.5	6057.1
20°	6032.8	6016.6	5935.7	5830.4	5773.7
22.5°	5798.0	5798.0	5700.8	5563.2	5506.5
25°	5579.4	5547.0	5457.9	5263.6	5117.8
27.5°	5328.3	5279.7	5182.6	4907.3	4737.2
30°	5053.0	5028.7	4891.1	4534.8	4405.2
32.5°	4793.9	4753.4	4607.6	4235.1	4129.9
35°	4526.7	4494.3	4275.6	3951.7	3854.5
37.5°	4259.4	4218.9	3943.6	3684.5	3563.0
40°	3992.2	3943.6	3644.0	3409.2	3279.6
42.5°	3741.2	3676.4	3384.9	3133.8	2988.1
45°	3473.9	3401.1	3109.5	2850.4	2737.0
47.5°	3206.7	3141.9	2874.7	2607.5	2477.9
50°	2923.3	2866.6	2623.7	2356.5	2218.8
52.5°	2688.5	2599.4	2364.6	2097.3	1984.0
55°	2413.1	2340.3	2121.6	1870.6	1773.4
57.5°	2162.1	2089.2	1886.8	1651.9	1571.0
60°	1927.3	1822.0	1651.9	1449.5	1384.7
62.5°	1668.1	1587.2	1441.4	1271.4	1352.3
65°	1433.3	1352.3	1222.8	1247.1	1036.5
67.5°	1174.2	1133.7	1020.3	907.0	874.6
70°	955.5	907.0	866.5	745.0	712.6
72.5°	761.2	712.6	655.9	591.1	566.8
75°	574.9	534.5	502.1	477.8	526.4
77.5°	396.8	380.6	356.3	332.0	323.9
80°	259.1	251.0	242.9	234.8	226.7
82.5°	153.9	153.9	153.9	153.9	153.9
85°	81.0	89.1	97.2	105.3	113.4
87.5°	48.6	48.6	56.7	64.8	72.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)