

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: P563627

Luminaire Tested: FSR-24-4-LD4-3STD-50-UNV-93-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563627  
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-LD4-3STD-50-UNV-93-94-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

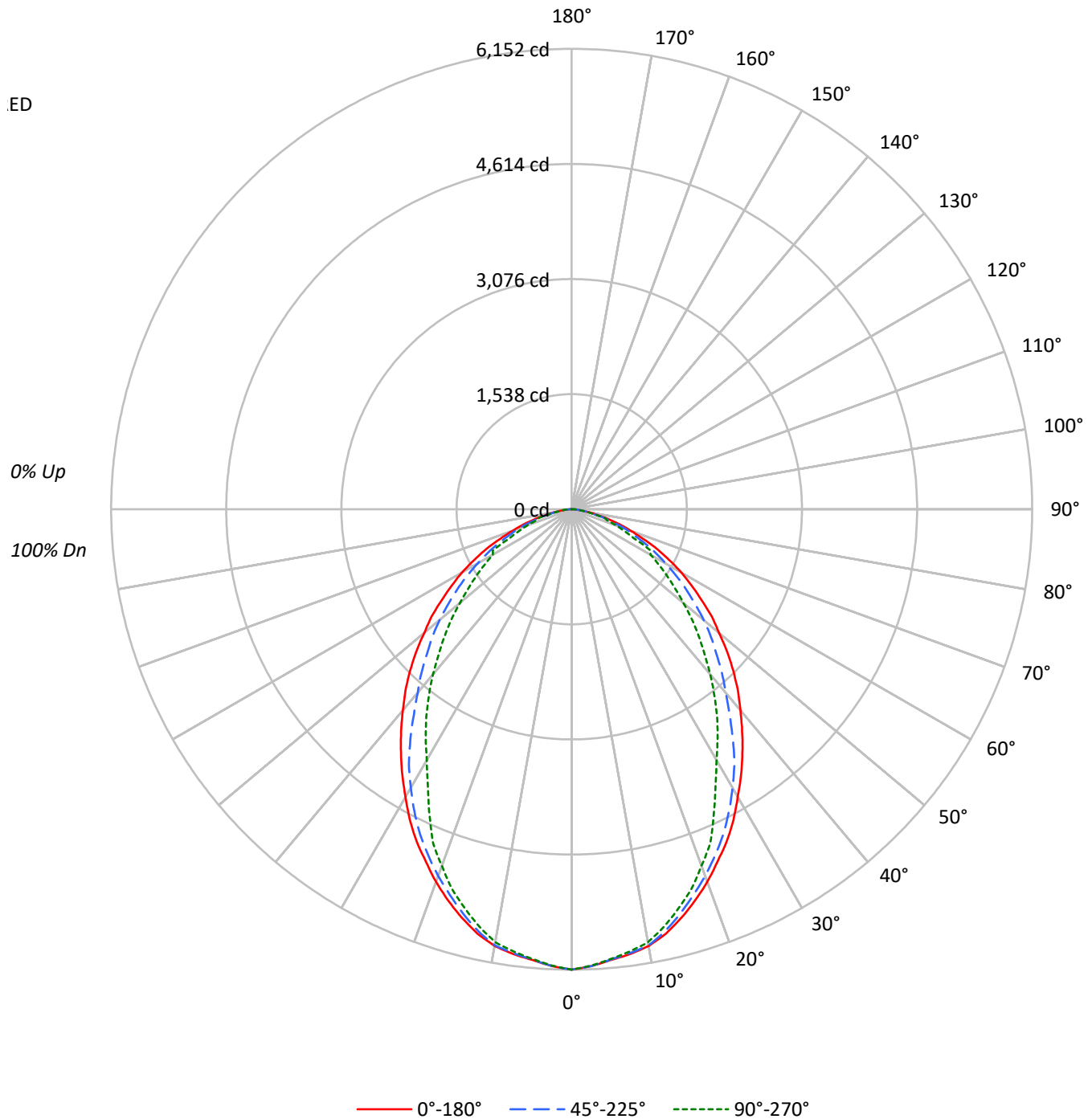
Lumens per Lamp: N/A  
Luminaire Lumens: 12077.0 lumens  
Efficiency: N/A  
Efficacy: 120.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 99.9  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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																												
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°	8277	8277	8277
5°	8165	8155	8146
10°	8094	8084	8026
15°	7876	7796	7688
20°	7586	7464	7261
25°	7275	7116	6673
30°	6895	6674	6011
35°	6530	6168	5560
40°	6158	5621	5059
45°	5805	5197	4574
50°	5374	4823	4079
55°	4972	4371	3654
60°	4555	3904	3272
65°	4008	3419	2898
70°	3301	2994	2462
75°	2625	2292	2403
80°	1764	1654	1543
85°	1098	1317	1538

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5805 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	572.7	4.7
10°-20°	1571.6	13.0
20°-30°	2175.8	18.0
30°-40°	2320.0	19.2
40°-50°	2116.5	17.5
50°-60°	1658.1	13.7
60°-70°	1080.7	8.9
70°-80°	478.8	4.0
80°-90°	102.8	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°	4320.0	35.8
0°-40°	6640.0	55.0
0°-60°	10414.7	86.2
0°-90°	12077.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12077.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6152	6152	6152	6152	6152	
5°	6045	6038	6038	6031	6031	574
15°	5654	5654	5597	5540	5519	1589
25°	4900	4872	4794	4623	4495	2250
35°	3976	3947	3755	3471	3385	2485
45°	3051	2987	2731	2503	2404	2350
55°	2119	2055	1863	1643	1558	1901
65°	1259	1188	1074	1095	910	1241
75°	505	469	441	420	462	541
85°	71	78	85	92	100	99
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6151.9	6151.9	6151.9	6151.9	6151.9
2.5°	6109.2	6109.2	6109.2	6102.1	6102.1
5°	6045.2	6038.1	6038.1	6031.0	6031.0
7.5°	5995.4	5988.3	5981.2	5974.1	5959.8
10°	5924.3	5924.3	5917.2	5881.6	5874.5
12.5°	5810.5	5803.4	5774.9	5725.1	5710.9
15°	5654.0	5654.0	5597.1	5540.2	5518.9
17.5°	5483.3	5476.2	5405.1	5348.2	5319.8
20°	5298.4	5284.2	5213.1	5120.6	5070.8
22.5°	5092.2	5092.2	5006.8	4885.9	4836.1
25°	4900.2	4871.7	4793.5	4622.8	4494.8
27.5°	4679.7	4637.0	4551.7	4309.9	4160.5
30°	4437.9	4416.5	4295.6	3982.7	3868.9
32.5°	4210.3	4174.7	4046.7	3719.6	3627.1
35°	3975.6	3947.1	3755.1	3470.6	3385.3
37.5°	3740.9	3705.3	3463.5	3236.0	3129.3
40°	3506.2	3463.5	3200.4	2994.1	2880.4
42.5°	3285.7	3228.8	2972.8	2752.3	2624.3
45°	3051.0	2987.0	2731.0	2503.4	2403.8
47.5°	2816.3	2759.4	2524.8	2290.1	2176.3
50°	2567.4	2517.6	2304.3	2069.6	1948.7
52.5°	2361.2	2282.9	2076.7	1842.0	1742.4
55°	2119.4	2055.4	1863.3	1642.9	1557.5
57.5°	1898.9	1834.9	1657.1	1450.8	1379.7
60°	1692.7	1600.2	1450.8	1273.0	1216.1
62.5°	1465.1	1393.9	1265.9	1116.6	1187.7
65°	1258.8	1187.7	1073.9	1095.2	910.3
67.5°	1031.2	995.7	896.1	796.5	768.1
70°	839.2	796.5	761.0	654.3	625.9
72.5°	668.5	625.9	576.1	519.2	497.8
75°	505.0	469.4	440.9	419.6	462.3
77.5°	348.5	334.3	312.9	291.6	284.5
80°	227.6	220.5	213.4	206.2	199.1
82.5°	135.1	135.1	135.1	135.1	135.1
85°	71.1	78.2	85.3	92.5	99.6
87.5°	42.7	42.7	49.8	56.9	64.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)