

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: P563019

Luminaire Tested: FSR-24-4-LD4-2STD-50-UNV-81-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563019  
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-LD4-2STD-50-UNV-81-94-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

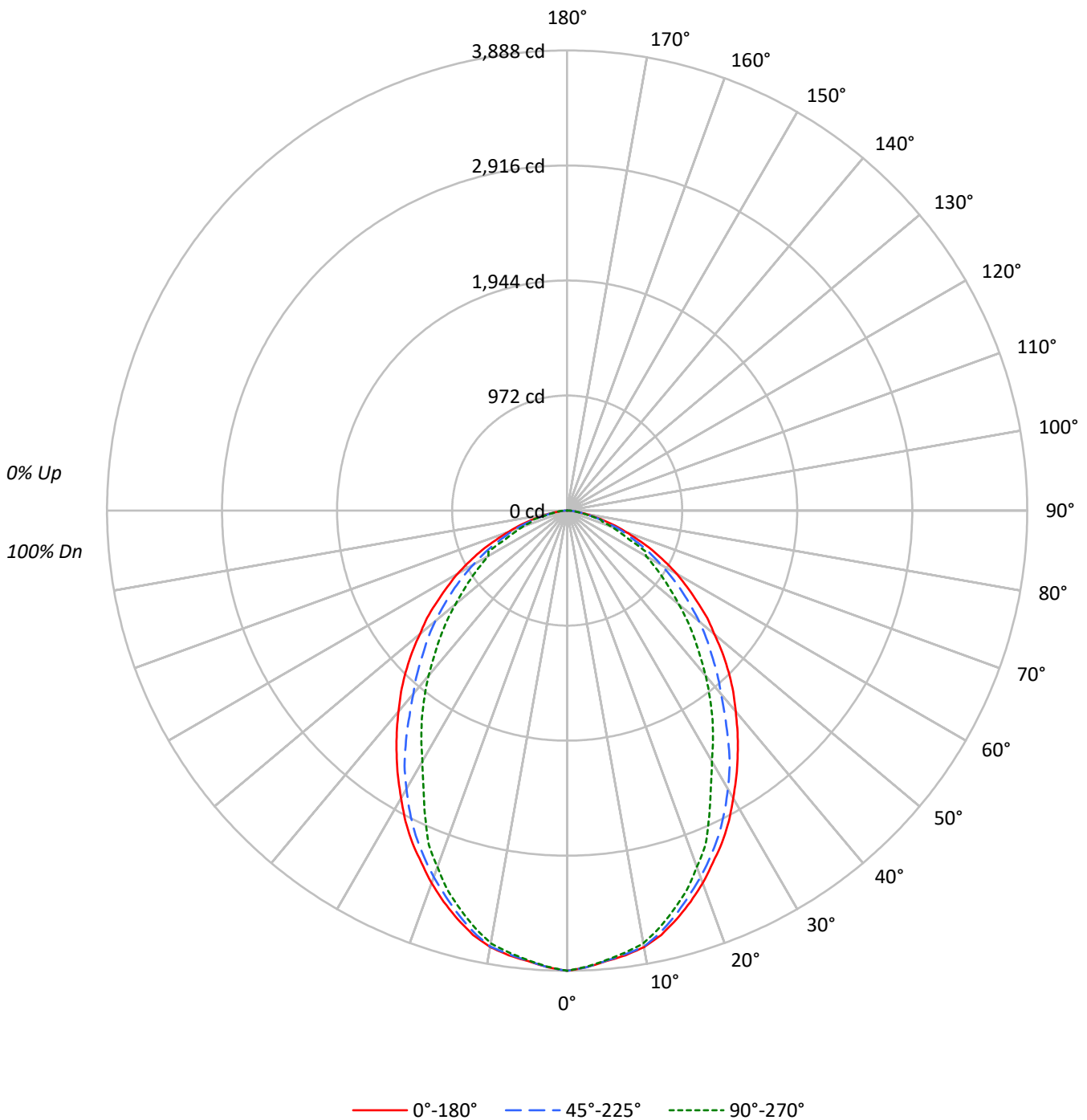
Lumens per Lamp: N/A  
Luminaire Lumens: 7633.0 lumens  
Efficiency: N/A  
Efficacy: 114.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	5231	5231	5231
5°	5160	5154	5148
10°	5116	5109	5073
15°	4978	4928	4859
20°	4795	4718	4589
25°	4598	4498	4217
30°	4358	4218	3799
35°	4127	3898	3514
40°	3892	3553	3198
45°	3669	3284	2891
50°	3397	3049	2578
55°	3142	2763	2309
60°	2879	2468	2068
65°	2533	2161	1832
70°	2087	1892	1556
75°	1659	1449	1519
80°	1114	1044	976
85°	693	832	971

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3669 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	361.9	4.7
10°-20°	993.3	13.0
20°-30°	1375.2	18.0
30°-40°	1466.3	19.2
40°-50°	1337.7	17.5
50°-60°	1048.0	13.7
60°-70°	683.0	8.9
70°-80°	302.6	4.0
80°-90°	65.0	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°	2730.4	35.8
0°-40°	4196.7	55.0
0°-60°	6582.4	86.2
0°-90°	7633.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7633.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3888	3888	3888	3888	3888	
5°	3821	3816	3816	3812	3812	363
15°	3574	3574	3538	3502	3488	1005
25°	3097	3079	3030	2922	2841	1422
35°	2513	2495	2373	2194	2140	1571
45°	1928	1888	1726	1582	1519	1485
55°	1340	1299	1178	1038	984	1201
65°	796	751	679	692	575	784
75°	319	297	279	265	292	342
85°	45	49	54	58	63	62
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3888.1	3888.1	3888.1	3888.1	3888.1
2.5°	3861.2	3861.2	3861.2	3856.7	3856.7
5°	3820.7	3816.2	3816.2	3811.7	3811.7
7.5°	3789.3	3784.8	3780.3	3775.8	3766.8
10°	3744.3	3744.3	3739.8	3717.3	3712.8
12.5°	3672.4	3667.9	3649.9	3618.5	3609.5
15°	3573.5	3573.5	3537.5	3501.6	3488.1
17.5°	3465.6	3461.1	3416.2	3380.2	3362.2
20°	3348.8	3339.8	3294.8	3236.4	3204.9
22.5°	3218.4	3218.4	3164.5	3088.0	3056.6
25°	3097.0	3079.1	3029.6	2921.7	2840.8
27.5°	2957.7	2930.7	2876.8	2724.0	2629.6
30°	2804.9	2791.4	2715.0	2517.2	2445.3
32.5°	2661.0	2638.5	2557.6	2350.9	2292.4
35°	2512.7	2494.7	2373.3	2193.5	2139.6
37.5°	2364.4	2341.9	2189.0	2045.2	1977.8
40°	2216.0	2189.0	2022.7	1892.4	1820.5
42.5°	2076.7	2040.7	1878.9	1739.6	1658.6
45°	1928.3	1887.9	1726.1	1582.2	1519.3
47.5°	1780.0	1744.0	1595.7	1447.4	1375.5
50°	1622.7	1591.2	1456.4	1308.0	1231.6
52.5°	1492.3	1442.9	1312.5	1164.2	1101.3
55°	1339.5	1299.0	1177.7	1038.3	984.4
57.5°	1200.2	1159.7	1047.3	917.0	872.0
60°	1069.8	1011.4	917.0	804.6	768.6
62.5°	926.0	881.0	800.1	705.7	750.7
65°	795.6	750.7	678.7	692.2	575.4
67.5°	651.8	629.3	566.4	503.4	485.5
70°	530.4	503.4	481.0	413.5	395.6
72.5°	422.5	395.6	364.1	328.1	314.6
75°	319.1	296.7	278.7	265.2	292.2
77.5°	220.3	211.3	197.8	184.3	179.8
80°	143.8	139.3	134.8	130.4	125.9
82.5°	85.4	85.4	85.4	85.4	85.4
85°	44.9	49.4	53.9	58.4	62.9
87.5°	27.0	27.0	31.5	36.0	40.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)