

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: P563041

Luminaire Tested: FSR-24-4-LD4-2STD-50-UNV-93-84-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563041  
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-93-84-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

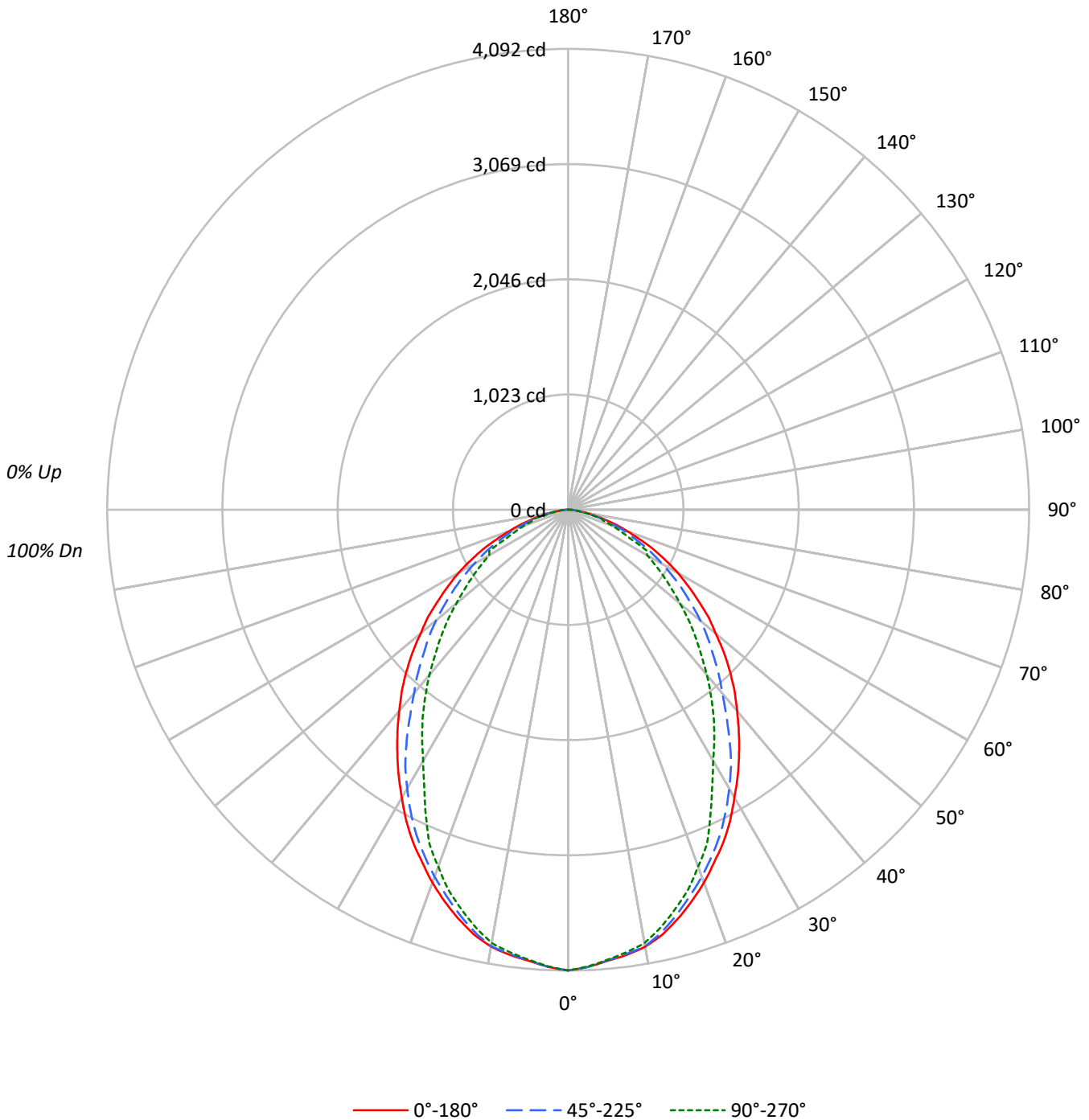
Lumens per Lamp: N/A  
Luminaire Lumens: 8033.0 lumens  
Efficiency: N/A  
Efficacy: 120.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	5506	5506	5506
5°	5431	5424	5418
10°	5384	5377	5338
15°	5239	5186	5113
20°	5046	4965	4829
25°	4839	4733	4438
30°	4586	4439	3998
35°	4344	4103	3699
40°	4096	3739	3365
45°	3862	3456	3042
50°	3575	3208	2713
55°	3307	2907	2430
60°	3030	2597	2177
65°	2666	2274	1928
70°	2196	1991	1638
75°	1746	1525	1599
80°	1173	1099	1027
85°	730	877	1022

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3862 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	380.9	4.7
10°-20°	1045.4	13.0
20°-30°	1447.2	18.0
30°-40°	1543.2	19.2
40°-50°	1407.8	17.5
50°-60°	1102.9	13.7
60°-70°	718.8	8.9
70°-80°	318.5	4.0
80°-90°	68.4	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°	2873.5	35.8
0°-40°	4416.6	55.0
0°-60°	6927.3	86.2
0°-90°	8033.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8033.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4092	4092	4092	4092	4092	
5°	4021	4016	4016	4012	4012	382
15°	3761	3761	3723	3685	3671	1057
25°	3259	3240	3188	3075	2990	1496
35°	2644	2625	2498	2308	2252	1653
45°	2029	1987	1816	1665	1599	1563
55°	1410	1367	1239	1093	1036	1264
65°	837	790	714	728	606	825
75°	336	312	293	279	308	360
85°	47	52	57	62	66	66
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4091.9	4091.9	4091.9	4091.9	4091.9
2.5°	4063.5	4063.5	4063.5	4058.8	4058.8
5°	4020.9	4016.2	4016.2	4011.5	4011.5
7.5°	3987.8	3983.1	3978.4	3973.6	3964.2
10°	3940.5	3940.5	3935.8	3912.1	3907.4
12.5°	3864.8	3860.1	3841.2	3808.1	3798.6
15°	3760.8	3760.8	3722.9	3685.1	3670.9
17.5°	3647.2	3642.5	3595.2	3557.4	3538.4
20°	3524.2	3514.8	3467.5	3406.0	3372.9
22.5°	3387.1	3387.1	3330.3	3249.9	3216.8
25°	3259.3	3240.4	3188.4	3074.8	2989.7
27.5°	3112.7	3084.3	3027.5	2866.7	2767.4
30°	2951.8	2937.7	2857.2	2649.1	2573.4
32.5°	2800.5	2776.8	2691.7	2474.1	2412.6
35°	2644.4	2625.4	2497.7	2308.5	2251.7
37.5°	2488.3	2464.6	2303.8	2152.4	2081.4
40°	2332.1	2303.8	2128.7	1991.6	1915.9
42.5°	2185.5	2147.7	1977.4	1830.7	1745.6
45°	2029.4	1986.8	1816.5	1665.1	1598.9
47.5°	1873.3	1835.4	1679.3	1523.2	1447.5
50°	1707.7	1674.6	1532.7	1376.6	1296.2
52.5°	1570.5	1518.5	1381.3	1225.2	1159.0
55°	1409.7	1367.1	1239.4	1092.8	1036.0
57.5°	1263.0	1220.5	1102.2	965.0	917.7
60°	1125.9	1064.4	965.0	846.8	808.9
62.5°	974.5	927.2	842.0	742.7	790.0
65°	837.3	790.0	714.3	728.5	605.5
67.5°	685.9	662.3	596.0	529.8	510.9
70°	558.2	529.8	506.2	435.2	416.3
72.5°	444.7	416.3	383.2	345.3	331.1
75°	335.9	312.2	293.3	279.1	307.5
77.5°	231.8	222.3	208.1	194.0	189.2
80°	151.4	146.6	141.9	137.2	132.5
82.5°	89.9	89.9	89.9	89.9	89.9
85°	47.3	52.0	56.8	61.5	66.2
87.5°	28.4	28.4	33.1	37.8	42.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)