

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: P563249

Luminaire Tested: FSR-24-4-LD4-3LO-35-UNV-80-84-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563249  
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-LD4-3LO-35-UNV-80-84-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

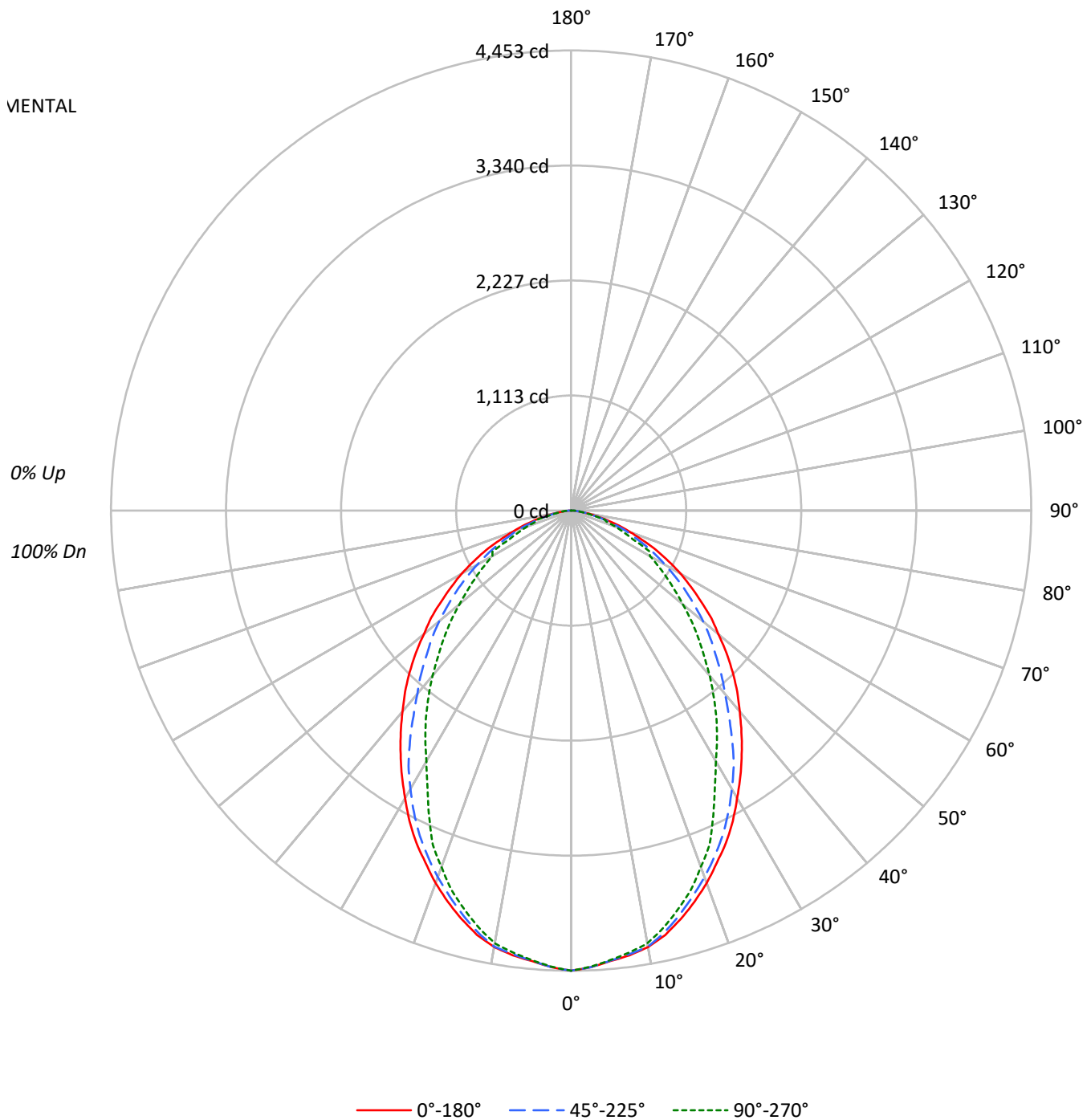
Lumens per Lamp: N/A  
Luminaire Lumens: 8742.0 lumens  
Efficiency: N/A  
Efficacy: 124.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 70.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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																		
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°	5992	5992	5992
5°	5910	5903	5896
10°	5859	5852	5810
15°	5701	5644	5565
20°	5492	5403	5256
25°	5266	5151	4830
30°	4991	4831	4351
35°	4727	4465	4025
40°	4458	4069	3662
45°	4202	3761	3311
50°	3890	3491	2953
55°	3599	3164	2645
60°	3297	2826	2369
65°	2901	2475	2098
70°	2390	2167	1782
75°	1900	1659	1739
80°	1276	1196	1117
85°	795	954	1113

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4202 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	414.5	4.7
10°-20°	1137.6	13.0
20°-30°	1574.9	18.0
30°-40°	1679.4	19.2
40°-50°	1532.1	17.5
50°-60°	1200.2	13.7
60°-70°	782.3	8.9
70°-80°	346.6	4.0
80°-90°	74.4	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°	3127.1	35.8
0°-40°	4806.4	55.0
0°-60°	7538.7	86.2
0°-90°	8742.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8742.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4453	4453	4453	4453	4453	
5°	4376	4371	4371	4366	4366	415
15°	4093	4093	4052	4010	3995	1151
25°	3547	3526	3470	3346	3254	1628
35°	2878	2857	2718	2512	2450	1799
45°	2208	2162	1977	1812	1740	1701
55°	1534	1488	1349	1189	1127	1376
65°	911	860	777	793	659	898
75°	366	340	319	304	335	392
85°	52	57	62	67	72	71
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4453.1	4453.1	4453.1	4453.1	4453.1
2.5°	4422.2	4422.2	4422.2	4417.0	4417.0
5°	4375.8	4370.7	4370.7	4365.5	4365.5
7.5°	4339.8	4334.7	4329.5	4324.4	4314.1
10°	4288.3	4288.3	4283.2	4257.4	4252.3
12.5°	4206.0	4200.8	4180.2	4144.2	4133.9
15°	4092.7	4092.7	4051.5	4010.3	3994.9
17.5°	3969.1	3964.0	3912.5	3871.3	3850.7
20°	3835.3	3825.0	3773.5	3706.6	3670.6
22.5°	3686.0	3686.0	3624.2	3536.7	3500.7
25°	3547.0	3526.4	3469.8	3346.2	3253.6
27.5°	3387.4	3356.5	3294.7	3119.7	3011.6
30°	3212.4	3196.9	3109.4	2882.9	2800.5
32.5°	3047.6	3021.9	2929.2	2692.4	2625.5
35°	2877.8	2857.2	2718.2	2512.2	2450.5
37.5°	2707.9	2682.1	2507.1	2342.4	2265.1
40°	2538.0	2507.1	2316.6	2167.3	2085.0
42.5°	2378.4	2337.2	2151.9	1992.3	1899.6
45°	2208.5	2162.2	1976.8	1812.1	1740.0
47.5°	2038.6	1997.4	1827.6	1657.7	1575.3
50°	1858.4	1822.4	1668.0	1498.1	1410.6
52.5°	1709.2	1652.5	1503.2	1333.3	1261.3
55°	1534.1	1487.8	1348.8	1189.2	1127.4
57.5°	1374.5	1328.2	1199.5	1050.2	998.7
60°	1225.2	1158.3	1050.2	921.5	880.3
62.5°	1060.5	1009.0	916.4	808.2	859.7
65°	911.2	859.7	777.4	792.8	658.9
67.5°	746.5	720.7	648.7	576.6	556.0
70°	607.5	576.6	550.8	473.6	453.0
72.5°	483.9	453.0	417.0	375.8	360.4
75°	365.5	339.8	319.2	303.7	334.6
77.5°	252.3	242.0	226.5	211.1	205.9
80°	164.7	159.6	154.4	149.3	144.1
82.5°	97.8	97.8	97.8	97.8	97.8
85°	51.5	56.6	61.8	66.9	72.1
87.5°	30.9	30.9	36.0	41.2	46.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)