

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: P563761

Luminaire Tested: FSR-24-4-LD4-4HI-50-UNV-80-84-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563761  
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-LD4-4HI-50-UNV-80-84-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

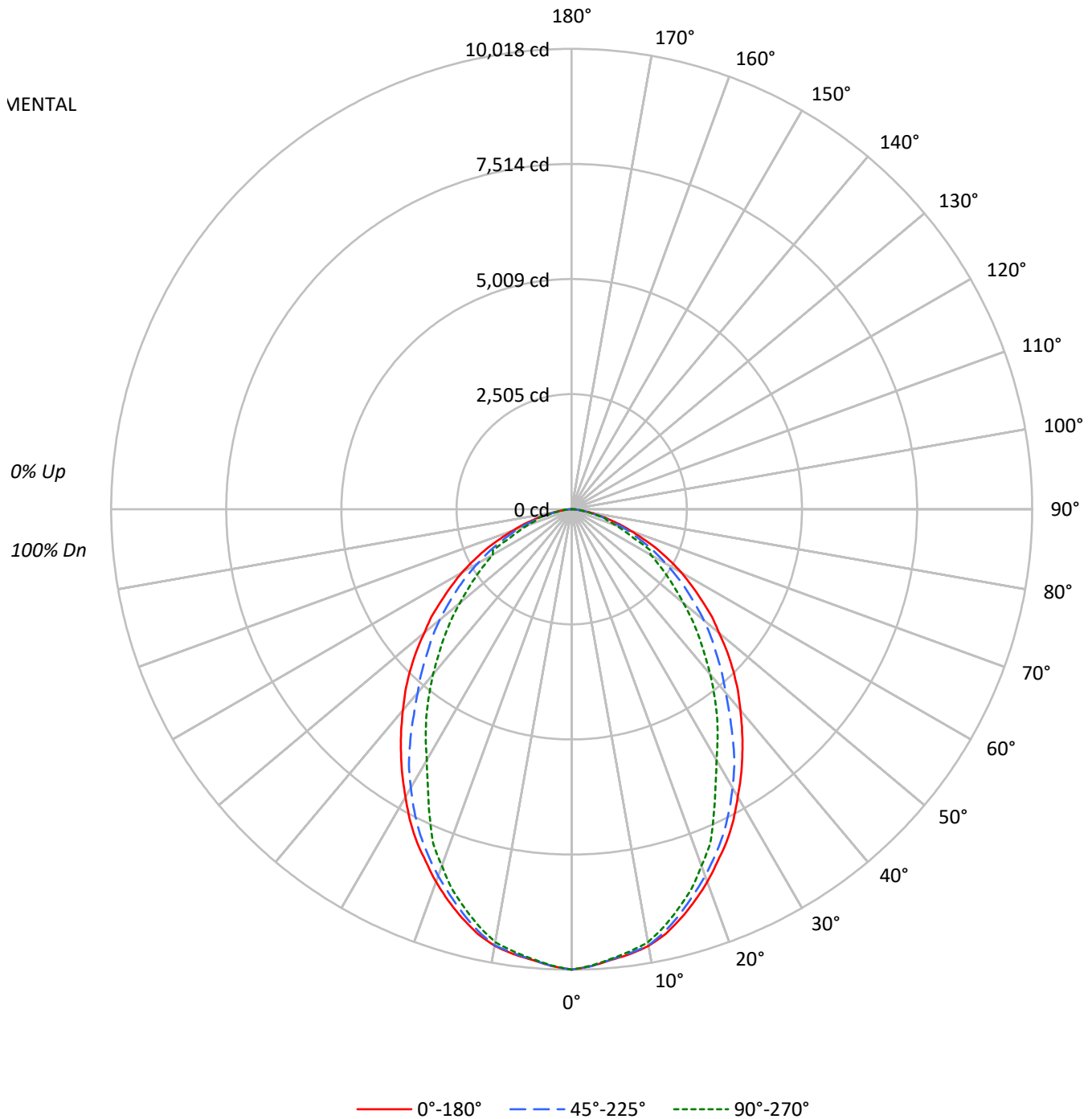
Lumens per Lamp: N/A  
Luminaire Lumens: 19666.0 lumens  
Efficiency: N/A  
Efficacy: 113.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 172.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	13479	13479	13479
5°	13295	13280	13264
10°	13180	13164	13069
15°	12825	12696	12518
20°	12354	12155	11823
25°	11846	11588	10866
30°	11228	10868	9788
35°	10633	10044	9055
40°	10028	9154	8238
45°	9454	8462	7448
50°	8751	7854	6642
55°	8096	7118	5949
60°	7417	6357	5329
65°	6526	5567	4720
70°	5376	4875	4009
75°	4275	3733	3913
80°	2872	2692	2513
85°	1788	2146	2502

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 9454 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	932.5	4.7
10°-20°	2559.2	13.0
20°-30°	3543.0	18.0
30°-40°	3777.9	19.2
40°-50°	3446.5	17.5
50°-60°	2700.1	13.7
60°-70°	1759.8	8.9
70°-80°	779.7	4.0
80°-90°	167.4	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°	7034.7	35.8
0°-40°	10812.6	55.0
0°-60°	16959.2	86.2
0°-90°	19666.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	19666.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	10018	10018	10018	10018	10018	
5°	9844	9832	9832	9821	9821	934
15°	9207	9207	9114	9022	8987	2588
25°	7979	7933	7806	7528	7319	3663
35°	6474	6428	6115	5652	5513	4047
45°	4968	4864	4447	4076	3914	3827
55°	3451	3347	3034	2675	2536	3095
65°	2050	1934	1749	1784	1482	2020
75°	822	764	718	683	753	881
85°	116	127	139	151	162	161
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	10017.6	10017.6	10017.6	10017.6	10017.6
2.5°	9948.1	9948.1	9948.1	9936.5	9936.5
5°	9843.9	9832.3	9832.3	9820.7	9820.7
7.5°	9762.8	9751.2	9739.7	9728.1	9704.9
10°	9647.0	9647.0	9635.4	9577.5	9565.9
12.5°	9461.7	9450.1	9403.8	9322.7	9299.6
15°	9206.9	9206.9	9114.3	9021.6	8986.9
17.5°	8929.0	8917.4	8801.6	8708.9	8662.6
20°	8627.9	8604.7	8488.9	8338.3	8257.3
22.5°	8292.0	8292.0	8153.1	7956.2	7875.1
25°	7979.3	7933.0	7805.6	7527.7	7319.2
27.5°	7620.3	7550.8	7411.9	7018.1	6774.9
30°	7226.6	7191.8	6994.9	6485.4	6300.1
32.5°	6856.0	6798.1	6589.6	6056.9	5906.3
35°	6473.8	6427.5	6114.8	5651.5	5512.6
37.5°	6091.6	6033.7	5640.0	5269.4	5095.7
40°	5709.5	5640.0	5211.5	4875.6	4690.3
42.5°	5350.4	5257.8	4840.9	4481.9	4273.4
45°	4968.3	4864.0	4447.1	4076.5	3914.4
47.5°	4586.1	4493.4	4111.3	3729.1	3543.8
50°	4180.8	4099.7	3752.3	3370.1	3173.2
52.5°	3844.9	3717.5	3381.7	2999.5	2837.4
55°	3451.1	3346.9	3034.2	2675.2	2536.2
57.5°	3092.1	2987.9	2698.4	2362.5	2246.7
60°	2756.3	2605.7	2362.5	2073.0	1980.4
62.5°	2385.7	2269.9	2061.4	1818.2	1934.0
65°	2049.8	1934.0	1748.7	1783.5	1482.4
67.5°	1679.3	1621.3	1459.2	1297.1	1250.8
70°	1366.6	1297.1	1239.2	1065.5	1019.1
72.5°	1088.6	1019.1	938.1	845.4	810.7
75°	822.3	764.3	718.0	683.3	752.8
77.5°	567.5	544.3	509.6	474.8	463.2
80°	370.6	359.0	347.4	335.9	324.3
82.5°	220.0	220.0	220.0	220.0	220.0
85°	115.8	127.4	139.0	150.6	162.1
87.5°	69.5	69.5	81.1	92.6	104.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)