

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: P561109

Luminaire Tested: FSR-12-4-LD4-1LO-50-UNV-82-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561109
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-12-4-LD4-1LO-50-UNV-82-86-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2296.0 lumens
Efficiency: N/A
Efficacy: 98.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

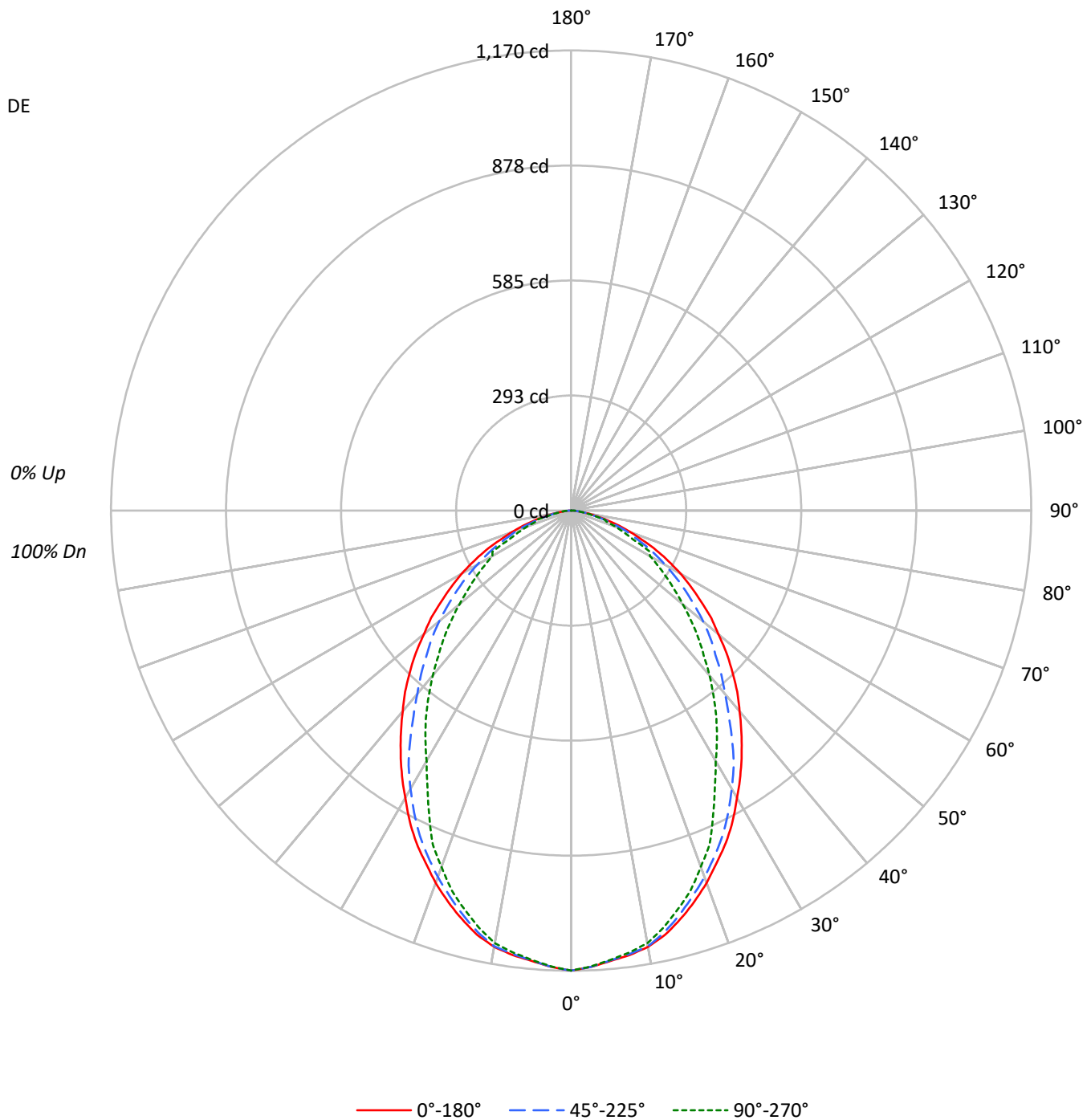
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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				
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°	3147	3147	3147
5°	3105	3101	3097
10°	3078	3074	3052
15°	2995	2964	2923
20°	2885	2838	2761
25°	2766	2706	2537
30°	2622	2538	2285
35°	2483	2345	2114
40°	2342	2137	1924
45°	2207	1976	1739
50°	2043	1834	1551
55°	1890	1662	1389
60°	1732	1484	1244
65°	1524	1300	1102
70°	1255	1138	936
75°	998	871	914
80°	671	629	587
85°	417	500	584

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2207 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.9	4.7
10°-20°	298.8	13.0
20°-30°	413.7	18.0
30°-40°	441.1	19.2
40°-50°	402.4	17.5
50°-60°	315.2	13.7
60°-70°	205.5	8.9
70°-80°	91.0	4.0
80°-90°	19.5	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°	821.3	35.8
0°-40°	1262.4	55.0
0°-60°	1980.0	86.2
0°-90°	2296.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2296.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1170	1170	1170	1170	1170	
5°	1149	1148	1148	1147	1147	109
15°	1075	1075	1064	1053	1049	302
25°	932	926	911	879	854	428
35°	756	750	714	660	644	473
45°	580	568	519	476	457	447
55°	403	391	354	312	296	361
65°	239	226	204	208	173	236
75°	96	89	84	80	88	103
85°	14	15	16	18	19	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1169.6	1169.6	1169.6	1169.6	1169.6
2.5°	1161.4	1161.4	1161.4	1160.1	1160.1
5°	1149.3	1147.9	1147.9	1146.6	1146.6
7.5°	1139.8	1138.5	1137.1	1135.7	1133.0
10°	1126.3	1126.3	1124.9	1118.2	1116.8
12.5°	1104.7	1103.3	1097.9	1088.4	1085.7
15°	1074.9	1074.9	1064.1	1053.3	1049.2
17.5°	1042.5	1041.1	1027.6	1016.8	1011.4
20°	1007.3	1004.6	991.1	973.5	964.0
22.5°	968.1	968.1	951.9	928.9	919.4
25°	931.6	926.2	911.3	878.9	854.5
27.5°	889.7	881.6	865.3	819.4	791.0
30°	843.7	839.6	816.7	757.2	735.5
32.5°	800.4	793.7	769.3	707.1	689.6
35°	755.8	750.4	713.9	659.8	643.6
37.5°	711.2	704.4	658.5	615.2	594.9
40°	666.6	658.5	608.4	569.2	547.6
42.5°	624.7	613.8	565.2	523.3	498.9
45°	580.0	567.9	519.2	475.9	457.0
47.5°	535.4	524.6	480.0	435.4	413.7
50°	488.1	478.6	438.1	393.5	370.5
52.5°	448.9	434.0	394.8	350.2	331.3
55°	402.9	390.8	354.2	312.3	296.1
57.5°	361.0	348.8	315.0	275.8	262.3
60°	321.8	304.2	275.8	242.0	231.2
62.5°	278.5	265.0	240.7	212.3	225.8
65°	239.3	225.8	204.2	208.2	173.1
67.5°	196.1	189.3	170.4	151.4	146.0
70°	159.5	151.4	144.7	124.4	119.0
72.5°	127.1	119.0	109.5	98.7	94.6
75°	96.0	89.2	83.8	79.8	87.9
77.5°	66.3	63.5	59.5	55.4	54.1
80°	43.3	41.9	40.6	39.2	37.9
82.5°	25.7	25.7	25.7	25.7	25.7
85°	13.5	14.9	16.2	17.6	18.9
87.5°	8.1	8.1	9.5	10.8	12.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)