

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: P560950

Luminaire Tested: FSR-12-4-LD4-1LO-35-UNV-80-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560950
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-35-UNV-80-87-EDD-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONM
SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

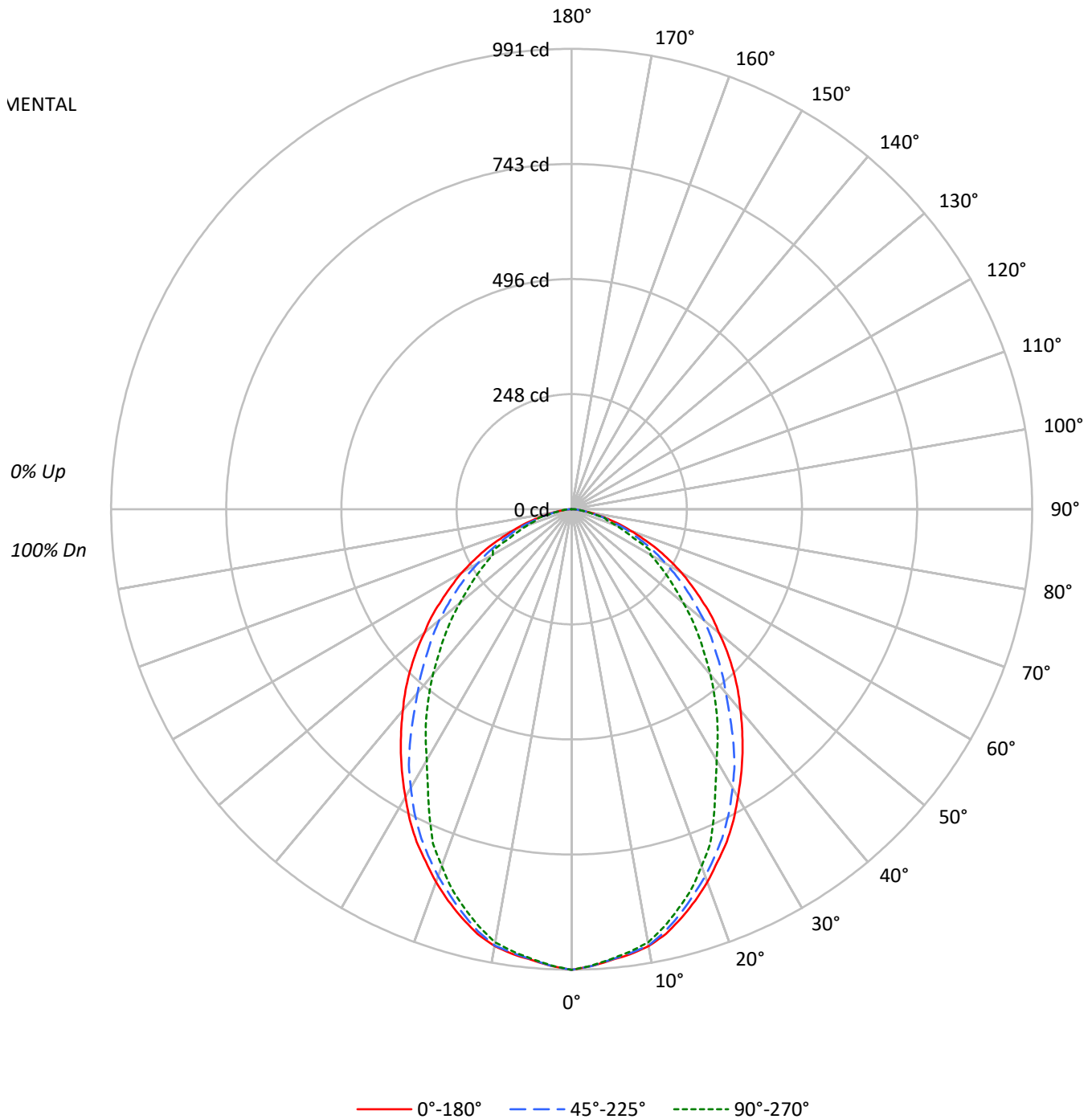
Lumens per Lamp: N/A
Luminaire Lumens: 1946.0 lumens
Efficiency: N/A
Efficacy: 83.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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	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°	2668	2668	2668
5°	2631	2628	2625
10°	2608	2605	2587
15°	2538	2513	2478
20°	2445	2405	2340
25°	2344	2293	2151
30°	2222	2151	1937
35°	2104	1988	1792
40°	1985	1812	1630
45°	1871	1675	1474
50°	1732	1554	1315
55°	1602	1408	1178
60°	1468	1258	1055
65°	1291	1102	934
70°	1064	965	793
75°	846	739	775
80°	569	533	497
85°	355	426	494

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1871 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.3	4.7
10°-20°	253.2	13.0
20°-30°	350.6	18.0
30°-40°	373.8	19.2
40°-50°	341.0	17.5
50°-60°	267.2	13.7
60°-70°	174.1	8.9
70°-80°	77.1	4.0
80°-90°	16.6	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°	696.1	35.8
0°-40°	1069.9	55.0
0°-60°	1678.2	86.2
0°-90°	1946.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1946.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	991	991	991	991	991	
5°	974	973	973	972	972	92
15°	911	911	902	893	889	256
25°	790	785	772	745	724	362
35°	641	636	605	559	546	400
45°	492	481	440	403	387	379
55°	342	331	300	265	251	306
65°	203	191	173	176	147	200
75°	81	76	71	68	74	87
85°	12	13	14	15	16	16
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	991.3	991.3	991.3	991.3	991.3
2.5°	984.4	984.4	984.4	983.2	983.2
5°	974.1	972.9	972.9	971.8	971.8
7.5°	966.1	964.9	963.8	962.6	960.3
10°	954.6	954.6	953.4	947.7	946.6
12.5°	936.3	935.1	930.5	922.5	920.2
15°	911.0	911.0	901.9	892.7	889.3
17.5°	883.5	882.4	870.9	861.8	857.2
20°	853.7	851.5	840.0	825.1	817.1
22.5°	820.5	820.5	806.8	787.3	779.3
25°	789.6	785.0	772.4	744.9	724.3
27.5°	754.1	747.2	733.4	694.5	670.4
30°	715.1	711.6	692.2	641.7	623.4
32.5°	678.4	672.7	652.1	599.3	584.4
35°	640.6	636.0	605.1	559.2	545.5
37.5°	602.8	597.1	558.1	521.4	504.2
40°	565.0	558.1	515.7	482.5	464.1
42.5°	529.4	520.3	479.0	443.5	422.9
45°	491.6	481.3	440.1	403.4	387.3
47.5°	453.8	444.6	406.8	369.0	350.7
50°	413.7	405.7	371.3	333.5	314.0
52.5°	380.5	367.9	334.6	296.8	280.8
55°	341.5	331.2	300.2	264.7	251.0
57.5°	306.0	295.7	267.0	233.8	222.3
60°	272.7	257.8	233.8	205.1	196.0
62.5°	236.1	224.6	204.0	179.9	191.4
65°	202.8	191.4	173.0	176.5	146.7
67.5°	166.2	160.4	144.4	128.3	123.8
70°	135.2	128.3	122.6	105.4	100.8
72.5°	107.7	100.8	92.8	83.7	80.2
75°	81.4	75.6	71.1	67.6	74.5
77.5°	56.2	53.9	50.4	47.0	45.8
80°	36.7	35.5	34.4	33.2	32.1
82.5°	21.8	21.8	21.8	21.8	21.8
85°	11.5	12.6	13.8	14.9	16.0
87.5°	6.9	6.9	8.0	9.2	10.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)