

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: P561521

Luminaire Tested: FSR-12-4-LD4-2LO-35-UNV-80-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561521
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-LD4-2LO-35-UNV-80-84-EDD
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRON
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

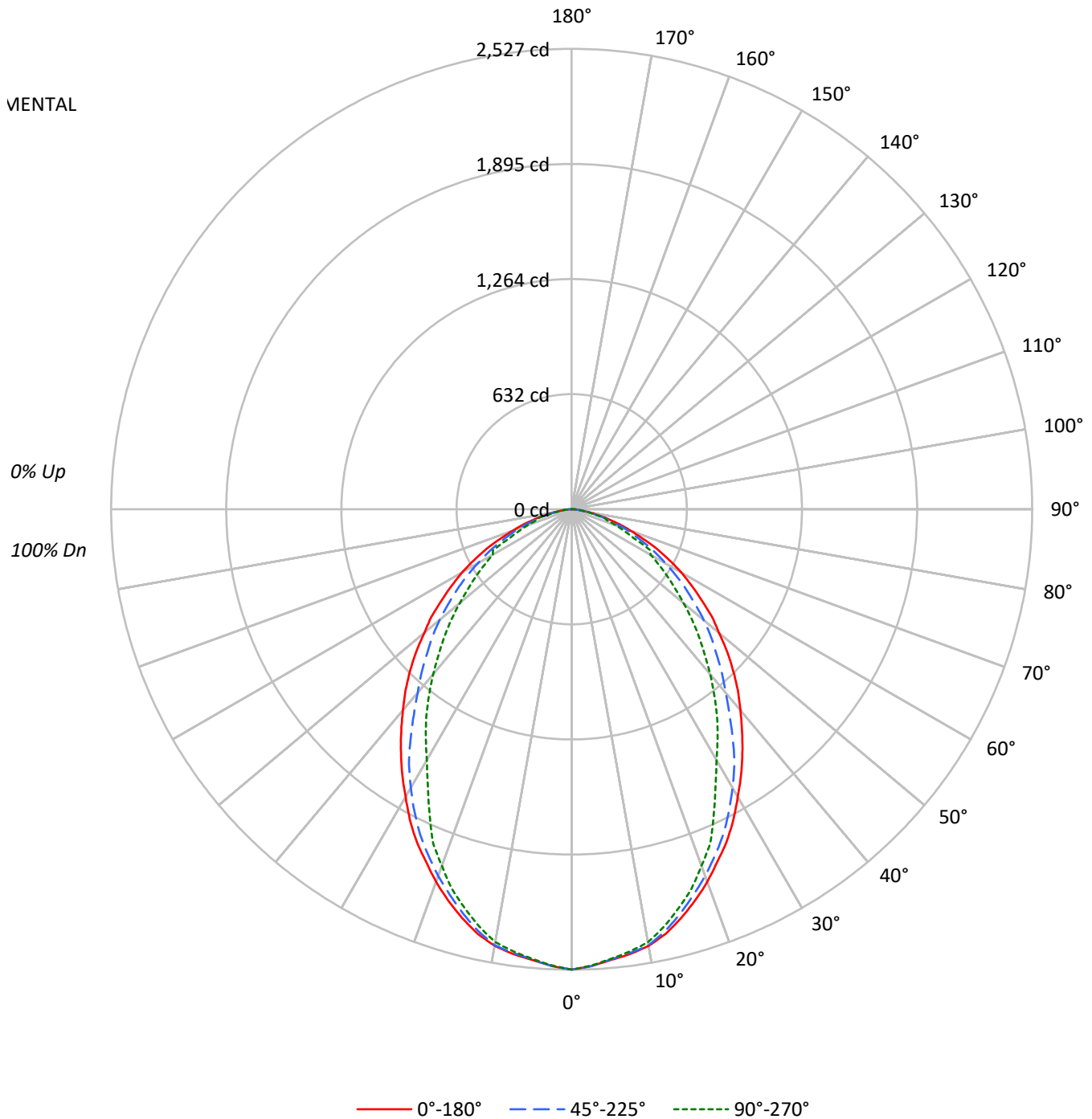
Lumens per Lamp: N/A
Luminaire Lumens: 4960.0 lumens
Efficiency: N/A
Efficacy: 106.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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	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°	6799	6799	6799
5°	6706	6699	6691
10°	6648	6641	6592
15°	6469	6404	6315
20°	6232	6131	5964
25°	5975	5845	5481
30°	5663	5482	4937
35°	5364	5066	4567
40°	5058	4617	4156
45°	4769	4268	3757
50°	4414	3962	3350
55°	4084	3590	3001
60°	3742	3207	2688
65°	3292	2809	2381
70°	2712	2459	2022
75°	2156	1883	1974
80°	1449	1358	1268
85°	902	1084	1263

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4769 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	235.2	4.7
10°-20°	645.5	13.0
20°-30°	893.6	18.0
30°-40°	952.8	19.2
40°-50°	869.3	17.5
50°-60°	681.0	13.7
60°-70°	443.8	8.9
70°-80°	196.6	4.0
80°-90°	42.2	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°	1774.2	35.8
0°-40°	2727.1	55.0
0°-60°	4277.3	86.2
0°-90°	4960.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4960.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2527	2527	2527	2527	2527	
5°	2483	2480	2480	2477	2477	236
15°	2322	2322	2299	2275	2267	653
25°	2012	2001	1969	1899	1846	924
35°	1633	1621	1542	1425	1390	1021
45°	1253	1227	1122	1028	987	965
55°	870	844	765	675	640	781
65°	517	488	441	450	374	510
75°	207	193	181	172	190	222
85°	29	32	35	38	41	41
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2526.6	2526.6	2526.6	2526.6	2526.6
2.5°	2509.0	2509.0	2509.0	2506.1	2506.1
5°	2482.7	2479.8	2479.8	2476.9	2476.9
7.5°	2462.3	2459.4	2456.5	2453.5	2447.7
10°	2433.1	2433.1	2430.2	2415.6	2412.6
12.5°	2386.4	2383.4	2371.8	2351.3	2345.5
15°	2322.1	2322.1	2298.7	2275.4	2266.6
17.5°	2252.0	2249.1	2219.9	2196.5	2184.8
20°	2176.1	2170.2	2141.0	2103.0	2082.6
22.5°	2091.3	2091.3	2056.3	2006.6	1986.2
25°	2012.5	2000.8	1968.7	1898.6	1846.0
27.5°	1921.9	1904.4	1869.4	1770.1	1708.7
30°	1822.6	1813.9	1764.2	1635.7	1589.0
32.5°	1729.2	1714.6	1662.0	1527.6	1489.6
35°	1632.8	1621.1	1542.2	1425.4	1390.3
37.5°	1536.4	1521.8	1422.5	1329.0	1285.2
40°	1440.0	1422.5	1314.4	1229.7	1183.0
42.5°	1349.4	1326.1	1220.9	1130.4	1077.8
45°	1253.1	1226.8	1121.6	1028.1	987.3
47.5°	1156.7	1133.3	1036.9	940.5	893.8
50°	1054.4	1034.0	946.4	850.0	800.3
52.5°	969.7	937.6	852.9	756.5	715.6
55°	870.4	844.1	765.3	674.7	639.7
57.5°	779.9	753.6	680.6	595.9	566.6
60°	695.2	657.2	595.9	522.8	499.5
62.5°	601.7	572.5	519.9	458.6	487.8
65°	517.0	487.8	441.1	449.8	373.9
67.5°	423.5	408.9	368.0	327.1	315.5
70°	344.7	327.1	312.5	268.7	257.0
72.5°	274.6	257.0	236.6	213.2	204.5
75°	207.4	192.8	181.1	172.3	189.9
77.5°	143.1	137.3	128.5	119.8	116.8
80°	93.5	90.5	87.6	84.7	81.8
82.5°	55.5	55.5	55.5	55.5	55.5
85°	29.2	32.1	35.1	38.0	40.9
87.5°	17.5	17.5	20.4	23.4	26.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)