

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: P561481

Luminaire Tested: FSR-12-4-LD4-2HI-50-UNV-81-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561481
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-LD4-2HI-50-UNV-81-88-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

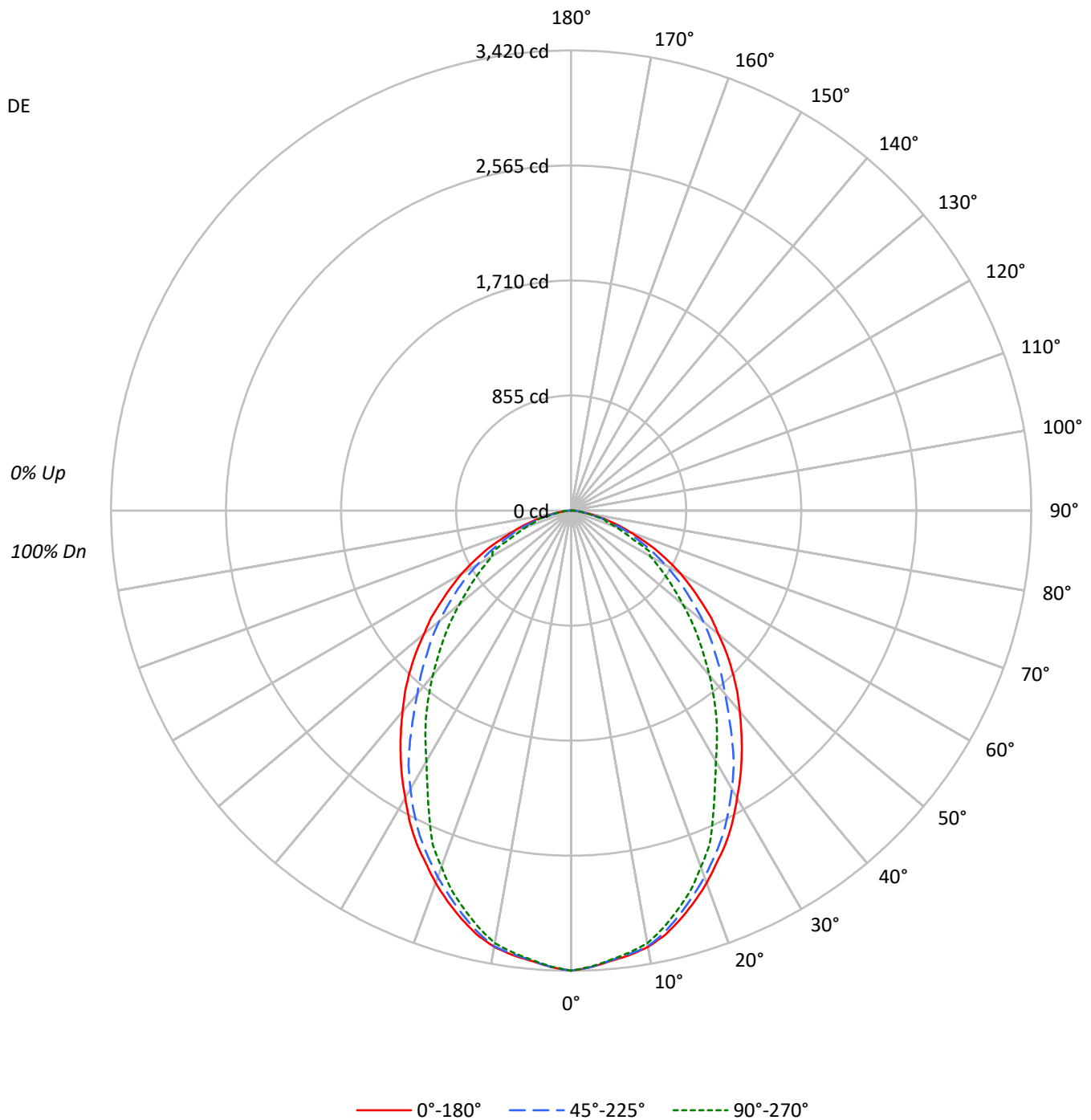
Lumens per Lamp: N/A
Luminaire Lumens: 6713.0 lumens
Efficiency: N/A
Efficacy: 77.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
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°	9202	9202	9202
5°	9077	9066	9055
10°	8998	8987	8922
15°	8756	8668	8546
20°	8434	8298	8072
25°	8087	7911	7418
30°	7665	7419	6682
35°	7259	6857	6182
40°	6846	6249	5624
45°	6454	5777	5085
50°	5974	5362	4535
55°	5527	4859	4061
60°	5064	4341	3638
65°	4455	3801	3222
70°	3670	3328	2737
75°	2918	2548	2672
80°	1960	1838	1715
85°	1220	1463	1707

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6454 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	318.3	4.7
10°-20°	873.6	13.0
20°-30°	1209.4	18.0
30°-40°	1289.6	19.2
40°-50°	1176.5	17.5
50°-60°	921.7	13.7
60°-70°	600.7	8.9
70°-80°	266.1	4.0
80°-90°	57.1	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°	2401.3	35.8
0°-40°	3690.9	55.0
0°-60°	5789.0	86.2
0°-90°	6713.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6713.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3420	3420	3420	3420	3420	
5°	3360	3356	3356	3352	3352	319
15°	3143	3143	3111	3080	3068	884
25°	2724	2708	2664	2570	2498	1250
35°	2210	2194	2087	1929	1882	1382
45°	1696	1660	1518	1392	1336	1306
55°	1178	1142	1036	913	866	1057
65°	700	660	597	609	506	690
75°	281	261	245	233	257	301
85°	40	44	47	51	55	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3419.5	3419.5	3419.5	3419.5	3419.5
2.5°	3395.8	3395.8	3395.8	3391.8	3391.8
5°	3360.2	3356.3	3356.3	3352.3	3352.3
7.5°	3332.5	3328.6	3324.6	3320.7	3312.8
10°	3293.0	3293.0	3289.1	3269.3	3265.3
12.5°	3229.8	3225.8	3210.0	3182.3	3174.4
15°	3142.8	3142.8	3111.2	3079.5	3067.7
17.5°	3047.9	3044.0	3004.4	2972.8	2957.0
20°	2945.1	2937.2	2897.7	2846.3	2818.6
22.5°	2830.5	2830.5	2783.0	2715.8	2688.2
25°	2723.8	2707.9	2664.5	2569.6	2498.4
27.5°	2601.2	2577.5	2530.0	2395.6	2312.6
30°	2466.8	2454.9	2387.7	2213.8	2150.5
32.5°	2340.3	2320.5	2249.4	2067.5	2016.1
35°	2209.8	2194.0	2087.3	1929.2	1881.7
37.5°	2079.4	2059.6	1925.2	1798.7	1739.4
40°	1948.9	1925.2	1778.9	1664.3	1601.0
42.5°	1826.4	1794.7	1652.4	1529.9	1458.7
45°	1695.9	1660.3	1518.0	1391.5	1336.2
47.5°	1565.5	1533.8	1403.4	1272.9	1209.7
50°	1427.1	1399.4	1280.8	1150.4	1083.2
52.5°	1312.5	1269.0	1154.3	1023.9	968.5
55°	1178.1	1142.5	1035.7	913.2	865.7
57.5°	1055.5	1019.9	921.1	806.5	766.9
60°	940.9	889.5	806.5	707.6	676.0
62.5°	814.4	774.8	703.7	620.7	660.2
65°	699.7	660.2	596.9	608.8	506.0
67.5°	573.2	553.4	498.1	442.8	426.9
70°	466.5	442.8	423.0	363.7	347.9
72.5°	371.6	347.9	320.2	288.6	276.7
75°	280.7	260.9	245.1	233.2	257.0
77.5°	193.7	185.8	173.9	162.1	158.1
80°	126.5	122.5	118.6	114.6	110.7
82.5°	75.1	75.1	75.1	75.1	75.1
85°	39.5	43.5	47.4	51.4	55.3
87.5°	23.7	23.7	27.7	31.6	35.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)