

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: P561413

Luminaire Tested: FSR-12-4-LD4-2HI-40-UNV-81-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561413
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-40-UNV-81-86-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

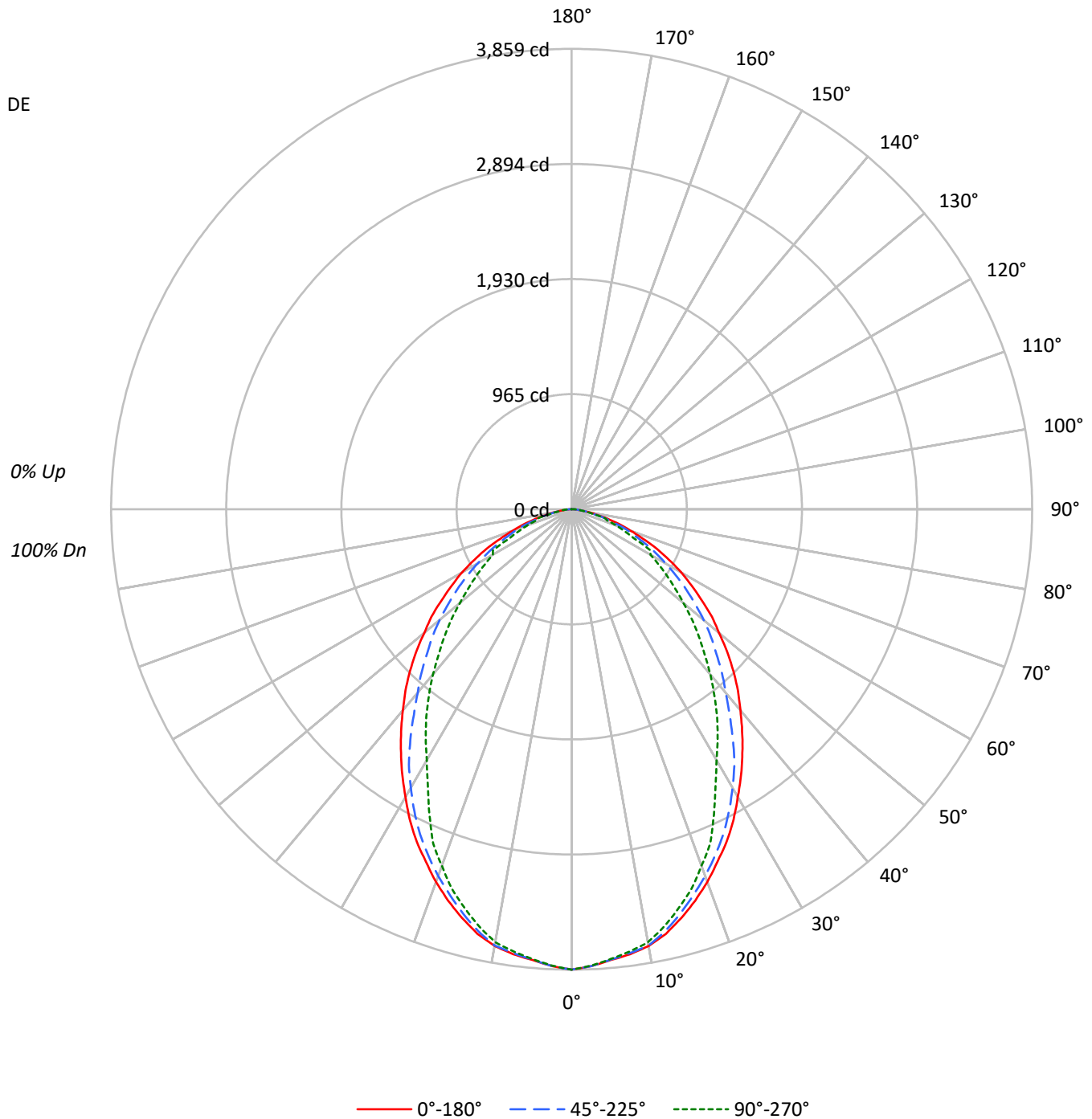
Lumens per Lamp: N/A
Luminaire Lumens: 7576.0 lumens
Efficiency: N/A
Efficacy: 87.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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	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°	10385	10385	10385
5°	10244	10232	10220
10°	10155	10143	10070
15°	9881	9782	9645
20°	9518	9365	9109
25°	9127	8928	8372
30°	8650	8373	7541
35°	8193	7738	6976
40°	7726	7052	6347
45°	7284	6520	5739
50°	6743	6051	5117
55°	6237	5484	4584
60°	5715	4898	4106
65°	5028	4290	3636
70°	4142	3756	3089
75°	3294	2876	3015
80°	2213	2073	1936
85°	1377	1652	1930

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7284 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	359.2	4.7
10°-20°	985.9	13.0
20°-30°	1364.9	18.0
30°-40°	1455.4	19.2
40°-50°	1327.7	17.5
50°-60°	1040.1	13.7
60°-70°	677.9	8.9
70°-80°	300.4	4.0
80°-90°	64.5	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°	2710.0	35.8
0°-40°	4165.4	55.0
0°-60°	6533.2	86.2
0°-90°	7576.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7576.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3859	3859	3859	3859	3859	
5°	3792	3788	3788	3783	3783	360
15°	3547	3547	3511	3475	3462	997
25°	3074	3056	3007	2900	2820	1411
35°	2494	2476	2356	2177	2124	1559
45°	1914	1874	1713	1570	1508	1474
55°	1330	1289	1169	1031	977	1192
65°	790	745	674	687	571	778
75°	317	294	277	263	290	340
85°	45	49	54	58	62	62
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3859.1	3859.1	3859.1	3859.1	3859.1
2.5°	3832.3	3832.3	3832.3	3827.9	3827.9
5°	3792.2	3787.7	3787.7	3783.3	3783.3
7.5°	3761.0	3756.5	3752.0	3747.6	3738.7
10°	3716.3	3716.3	3711.9	3689.6	3685.1
12.5°	3645.0	3640.5	3622.7	3591.4	3582.5
15°	3546.8	3546.8	3511.1	3475.4	3462.0
17.5°	3439.7	3435.3	3390.7	3355.0	3337.1
20°	3323.7	3314.8	3270.2	3212.2	3181.0
22.5°	3194.4	3194.4	3140.8	3065.0	3033.8
25°	3073.9	3056.1	3007.0	2899.9	2819.6
27.5°	2935.6	2908.8	2855.3	2703.6	2609.9
30°	2783.9	2770.5	2694.7	2498.4	2427.0
32.5°	2641.2	2618.8	2538.5	2333.3	2275.3
35°	2493.9	2476.1	2355.6	2177.2	2123.6
37.5°	2346.7	2324.4	2172.7	2029.9	1963.0
40°	2199.5	2172.7	2007.6	1878.3	1806.9
42.5°	2061.2	2025.5	1864.9	1726.6	1646.3
45°	1913.9	1873.8	1713.2	1570.4	1508.0
47.5°	1766.7	1731.0	1583.8	1436.6	1365.2
50°	1610.6	1579.3	1445.5	1298.3	1222.4
52.5°	1481.2	1432.1	1302.7	1155.5	1093.0
55°	1329.5	1289.3	1168.9	1030.6	977.0
57.5°	1191.2	1151.0	1039.5	910.1	865.5
60°	1061.8	1003.8	910.1	798.6	762.9
62.5°	919.0	874.4	794.1	700.4	745.1
65°	789.7	745.1	673.7	687.1	571.1
67.5°	646.9	624.6	562.1	499.7	481.8
70°	526.4	499.7	477.4	410.4	392.6
72.5°	419.4	392.6	361.4	325.7	312.3
75°	316.8	294.5	276.6	263.2	290.0
77.5°	218.6	209.7	196.3	182.9	178.5
80°	142.8	138.3	133.8	129.4	124.9
82.5°	84.8	84.8	84.8	84.8	84.8
85°	44.6	49.1	53.5	58.0	62.5
87.5°	26.8	26.8	31.2	35.7	40.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)