

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: P561361

Luminaire Tested: FSR-12-4-LD4-2HI-35-UNV-82-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561361
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-35-UNV-82-84-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7578.0 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

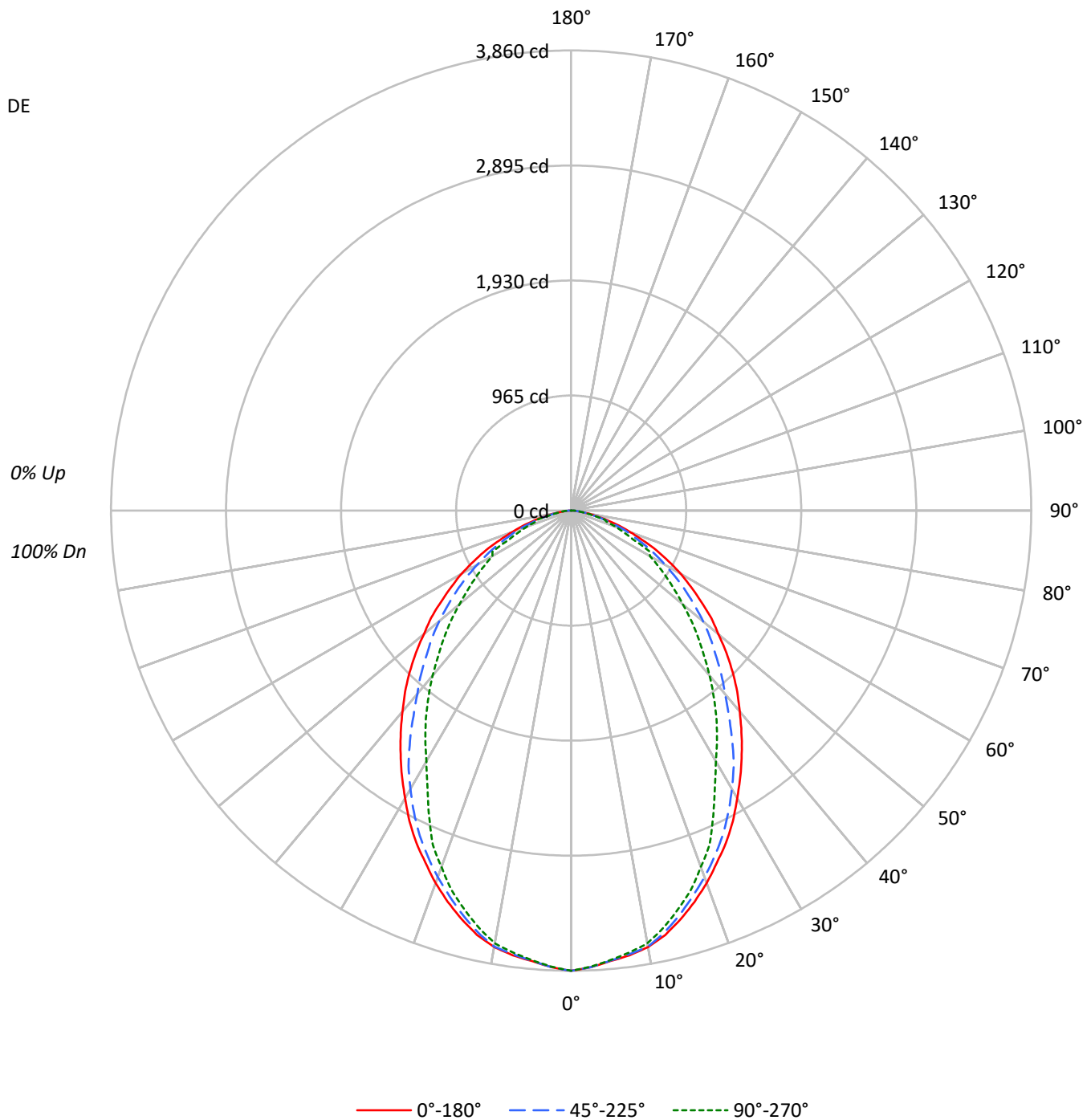
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10387	10387	10387
5°	10246	10234	10222
10°	10157	10145	10072
15°	9884	9784	9648
20°	9521	9367	9112
25°	9129	8931	8374
30°	8653	8375	7543
35°	8195	7740	6978
40°	7729	7054	6349
45°	7285	6521	5740
50°	6744	6053	5119
55°	6239	5485	4585
60°	5716	4900	4107
65°	5030	4290	3637
70°	4143	3757	3090
75°	3294	2877	3016
80°	2213	2075	1937
85°	1377	1655	1930

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7285 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	359.3	4.7
10°-20°	986.1	13.0
20°-30°	1365.3	18.0
30°-40°	1455.7	19.2
40°-50°	1328.1	17.5
50°-60°	1040.4	13.7
60°-70°	678.1	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°	2710.7	35.8
0°-40°	4166.5	55.0
0°-60°	6535.0	86.2
0°-90°	7578.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7578.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3860	3860	3860	3860	3860	
5°	3793	3789	3789	3784	3784	360
15°	3548	3548	3512	3476	3463	997
25°	3075	3057	3008	2901	2820	1412
35°	2495	2477	2356	2178	2124	1560
45°	1914	1874	1714	1571	1508	1475
55°	1330	1290	1169	1031	977	1193
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°	3860.1	3860.1	3860.1	3860.1	3860.1
2.5°	3833.4	3833.4	3833.4	3828.9	3828.9
5°	3793.2	3788.7	3788.7	3784.3	3784.3
7.5°	3762.0	3757.5	3753.0	3748.6	3739.6
10°	3717.3	3717.3	3712.9	3690.6	3686.1
12.5°	3645.9	3641.5	3623.6	3592.4	3583.5
15°	3547.8	3547.8	3512.1	3476.4	3463.0
17.5°	3440.6	3436.2	3391.6	3355.9	3338.0
20°	3324.6	3315.7	3271.1	3213.1	3181.8
22.5°	3195.2	3195.2	3141.7	3065.8	3034.6
25°	3074.7	3056.9	3007.8	2900.7	2820.4
27.5°	2936.4	2909.6	2856.1	2704.3	2610.6
30°	2784.7	2771.3	2695.4	2499.0	2427.6
32.5°	2641.8	2619.5	2539.2	2333.9	2275.9
35°	2494.6	2476.7	2356.2	2177.7	2124.2
37.5°	2347.3	2325.0	2173.3	2030.5	1963.5
40°	2200.1	2173.3	2008.2	1878.7	1807.3
42.5°	2061.7	2026.0	1865.4	1727.0	1646.7
45°	1914.4	1874.3	1713.6	1570.8	1508.4
47.5°	1767.2	1731.5	1584.2	1437.0	1365.5
50°	1611.0	1579.8	1445.9	1298.6	1222.7
52.5°	1481.6	1432.5	1303.1	1155.8	1093.3
55°	1329.8	1289.7	1169.2	1030.9	977.3
57.5°	1191.5	1151.3	1039.8	910.4	865.7
60°	1062.1	1004.1	910.4	798.8	763.1
62.5°	919.3	874.7	794.3	700.6	745.3
65°	789.9	745.3	673.8	687.2	571.2
67.5°	647.1	624.8	562.3	499.8	482.0
70°	526.6	499.8	477.5	410.6	392.7
72.5°	419.5	392.7	361.5	325.8	312.4
75°	316.8	294.5	276.7	263.3	290.1
77.5°	218.7	209.7	196.4	183.0	178.5
80°	142.8	138.3	133.9	129.4	125.0
82.5°	84.8	84.8	84.8	84.8	84.8
85°	44.6	49.1	53.6	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)