

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: P560960

Luminaire Tested: FSR-12-4-LD4-1LO-35-UNV-81-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560960
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-81-84-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

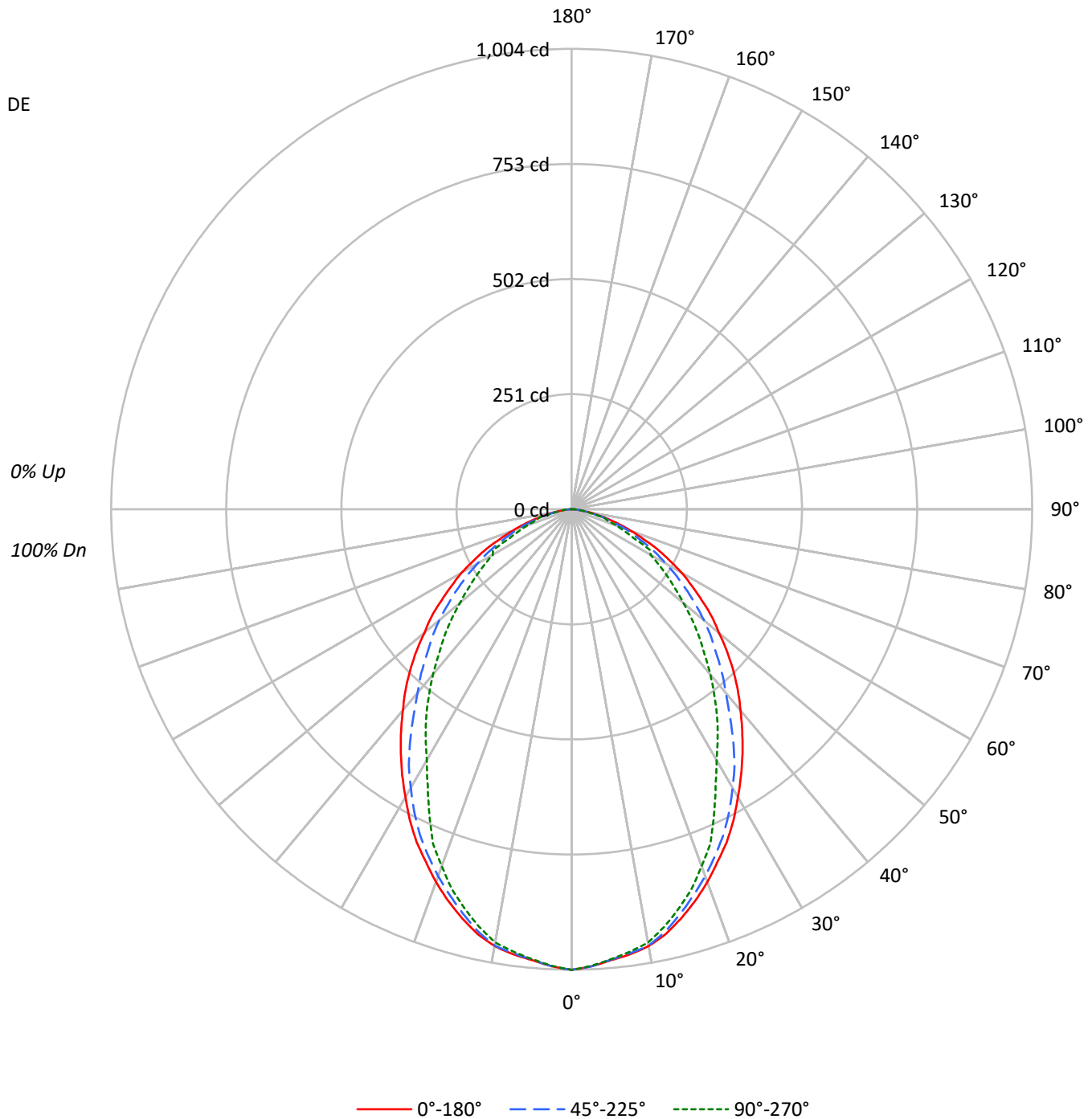
Lumens per Lamp: N/A
Luminaire Lumens: 1972.0 lumens
Efficiency: N/A
Efficacy: 84.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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	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°	2703	2703	2703
5°	2666	2663	2660
10°	2643	2640	2621
15°	2572	2546	2511
20°	2478	2438	2371
25°	2376	2324	2179
30°	2252	2179	1963
35°	2133	2014	1816
40°	2011	1836	1652
45°	1896	1697	1494
50°	1755	1575	1332
55°	1624	1428	1193
60°	1488	1275	1069
65°	1309	1117	946
70°	1078	978	804
75°	858	749	785
80°	576	539	504
85°	358	429	503

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1896 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.5	4.7
10°-20°	256.6	13.0
20°-30°	355.3	18.0
30°-40°	378.8	19.2
40°-50°	345.6	17.5
50°-60°	270.8	13.7
60°-70°	176.5	8.9
70°-80°	78.2	4.0
80°-90°	16.8	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°	705.4	35.8
0°-40°	1084.2	55.0
0°-60°	1700.6	86.2
0°-90°	1972.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1972.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1004	1004	1004	1004	1004	
5°	987	986	986	985	985	94
15°	923	923	914	905	901	260
25°	800	796	783	755	734	367
35°	649	644	613	567	553	406
45°	498	488	446	409	392	384
55°	346	336	304	268	254	310
65°	206	194	175	179	149	203
75°	82	77	72	68	76	88
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°	1004.5	1004.5	1004.5	1004.5	1004.5
2.5°	997.5	997.5	997.5	996.4	996.4
5°	987.1	985.9	985.9	984.8	984.8
7.5°	979.0	977.8	976.6	975.5	973.2
10°	967.3	967.3	966.2	960.4	959.2
12.5°	948.8	947.6	943.0	934.8	932.5
15°	923.2	923.2	913.9	904.6	901.2
17.5°	895.3	894.2	882.6	873.3	868.6
20°	865.2	862.8	851.2	836.1	828.0
22.5°	831.5	831.5	817.5	797.8	789.7
25°	800.1	795.5	782.7	754.8	733.9
27.5°	764.1	757.2	743.2	703.7	679.4
30°	724.6	721.2	701.4	650.3	631.7
32.5°	687.5	681.7	660.8	607.4	592.3
35°	649.2	644.5	613.2	566.7	552.8
37.5°	610.8	605.0	565.5	528.4	511.0
40°	572.5	565.5	522.6	488.9	470.3
42.5°	536.5	527.2	485.4	449.4	428.5
45°	498.2	487.7	445.9	408.8	392.5
47.5°	459.9	450.6	412.3	373.9	355.4
50°	419.2	411.1	376.3	337.9	318.2
52.5°	385.5	372.8	339.1	300.8	284.5
55°	346.1	335.6	304.3	268.3	254.3
57.5°	310.1	299.6	270.6	236.9	225.3
60°	276.4	261.3	236.9	207.9	198.6
62.5°	239.2	227.6	206.7	182.3	193.9
65°	205.5	193.9	175.4	178.8	148.6
67.5°	168.4	162.6	146.3	130.1	125.4
70°	137.0	130.1	124.3	106.8	102.2
72.5°	109.2	102.2	94.1	84.8	81.3
75°	82.5	76.6	72.0	68.5	75.5
77.5°	56.9	54.6	51.1	47.6	46.5
80°	37.2	36.0	34.8	33.7	32.5
82.5°	22.1	22.1	22.1	22.1	22.1
85°	11.6	12.8	13.9	15.1	16.3
87.5°	7.0	7.0	8.1	9.3	10.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)