

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: P561107

Luminaire Tested: FSR-12-4-LD4-1LO-50-UNV-82-85-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561107
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-50-UNV-82-85-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

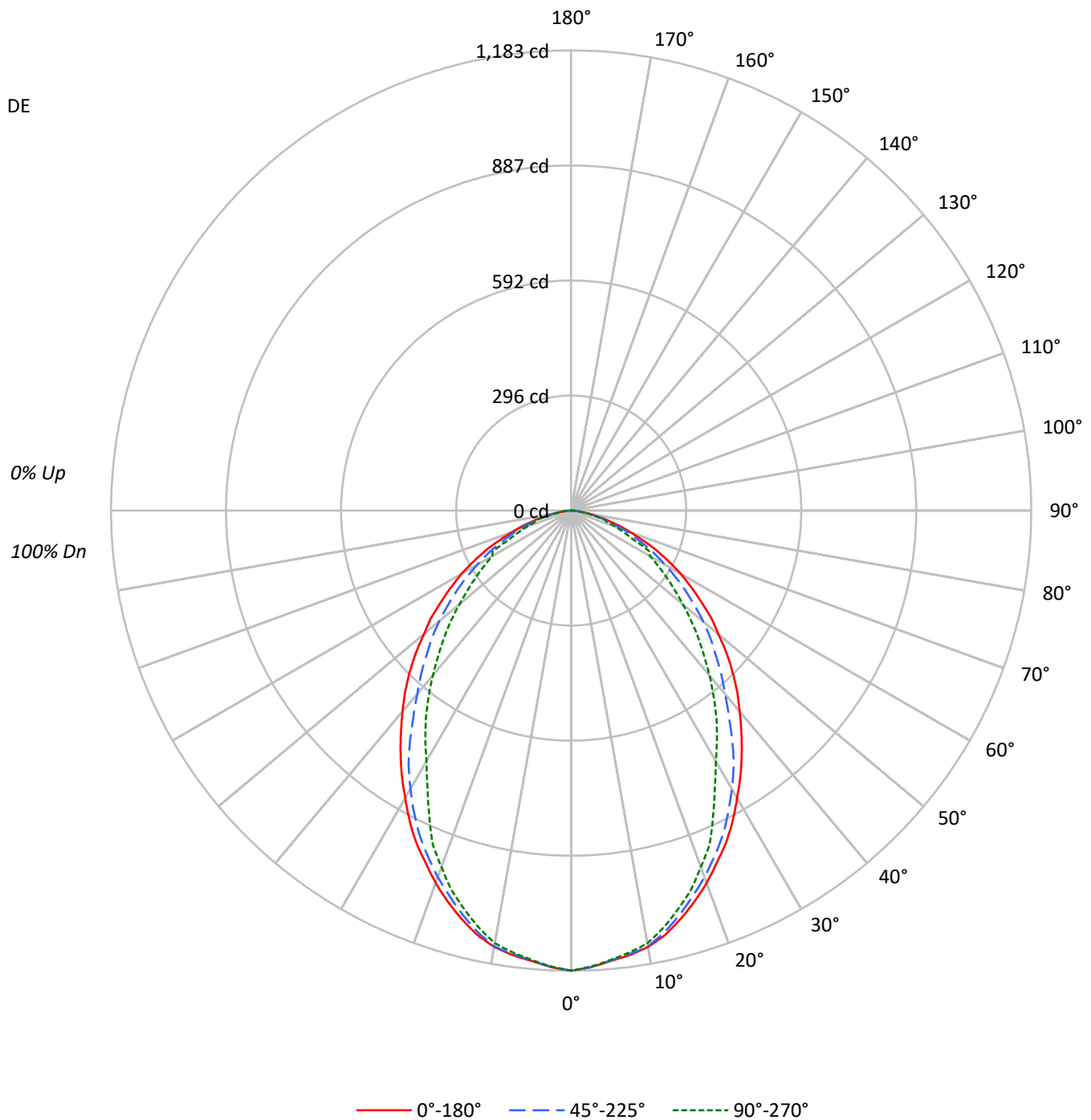
Lumens per Lamp: N/A
Luminaire Lumens: 2322.0 lumens
Efficiency: N/A
Efficacy: 99.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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	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°	3183	3183	3183
5°	3140	3136	3132
10°	3112	3109	3086
15°	3029	2998	2956
20°	2917	2870	2792
25°	2797	2736	2566
30°	2651	2566	2312
35°	2511	2372	2138
40°	2368	2161	1945
45°	2232	1998	1759
50°	2066	1855	1569
55°	1912	1681	1405
60°	1751	1501	1258
65°	1541	1315	1114
70°	1270	1151	947
75°	1010	882	924
80°	679	635	594
85°	423	506	590

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2232 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.1	4.7
10°-20°	302.2	13.0
20°-30°	418.3	18.0
30°-40°	446.1	19.2
40°-50°	406.9	17.5
50°-60°	318.8	13.7
60°-70°	207.8	8.9
70°-80°	92.1	4.0
80°-90°	19.8	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°	830.6	35.8
0°-40°	1276.7	55.0
0°-60°	2002.4	86.2
0°-90°	2322.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2322.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1183	1183	1183	1183	1183	
5°	1162	1161	1161	1160	1160	110
15°	1087	1087	1076	1065	1061	306
25°	942	937	922	889	864	433
35°	764	759	722	667	651	478
45°	587	574	525	481	462	452
55°	408	395	358	316	300	365
65°	242	228	206	211	175	239
75°	97	90	85	81	89	104
85°	14	15	16	18	19	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1182.8	1182.8	1182.8	1182.8	1182.8
2.5°	1174.6	1174.6	1174.6	1173.2	1173.2
5°	1162.3	1160.9	1160.9	1159.6	1159.6
7.5°	1152.7	1151.3	1150.0	1148.6	1145.9
10°	1139.0	1139.0	1137.7	1130.8	1129.5
12.5°	1117.2	1115.8	1110.3	1100.8	1098.0
15°	1087.1	1087.1	1076.1	1065.2	1061.1
17.5°	1054.3	1052.9	1039.2	1028.3	1022.8
20°	1018.7	1016.0	1002.3	984.5	975.0
22.5°	979.1	979.1	962.6	939.4	929.8
25°	942.1	936.7	921.6	888.8	864.2
27.5°	899.7	891.5	875.1	828.6	799.9
30°	853.3	849.2	825.9	765.7	743.9
32.5°	809.5	802.7	778.0	715.1	697.4
35°	764.4	758.9	722.0	667.3	650.9
37.5°	719.2	712.4	665.9	622.2	601.7
40°	674.1	665.9	615.3	575.7	553.8
42.5°	631.7	620.8	571.6	529.2	504.6
45°	586.6	574.3	525.1	481.3	462.2
47.5°	541.5	530.5	485.4	440.3	418.4
50°	493.6	484.1	443.0	397.9	374.7
52.5°	454.0	438.9	399.3	354.2	335.0
55°	407.5	395.2	358.3	315.9	299.5
57.5°	365.1	352.8	318.6	278.9	265.3
60°	325.4	307.7	278.9	244.8	233.8
62.5°	281.7	268.0	243.4	214.7	228.4
65°	242.0	228.4	206.5	210.6	175.0
67.5°	198.3	191.4	172.3	153.1	147.7
70°	161.4	153.1	146.3	125.8	120.3
72.5°	128.5	120.3	110.8	99.8	95.7
75°	97.1	90.2	84.8	80.7	88.9
77.5°	67.0	64.3	60.2	56.1	54.7
80°	43.8	42.4	41.0	39.7	38.3
82.5°	26.0	26.0	26.0	26.0	26.0
85°	13.7	15.0	16.4	17.8	19.1
87.5°	8.2	8.2	9.6	10.9	12.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)