

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: P564160

Luminaire Tested: FSR-24-4-LD4-4STD-50-UNV-81-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564160
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-24-4-LD4-4STD-50-UNV-81-84-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13251.0 lumens
Efficiency: N/A
Efficacy: 99.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

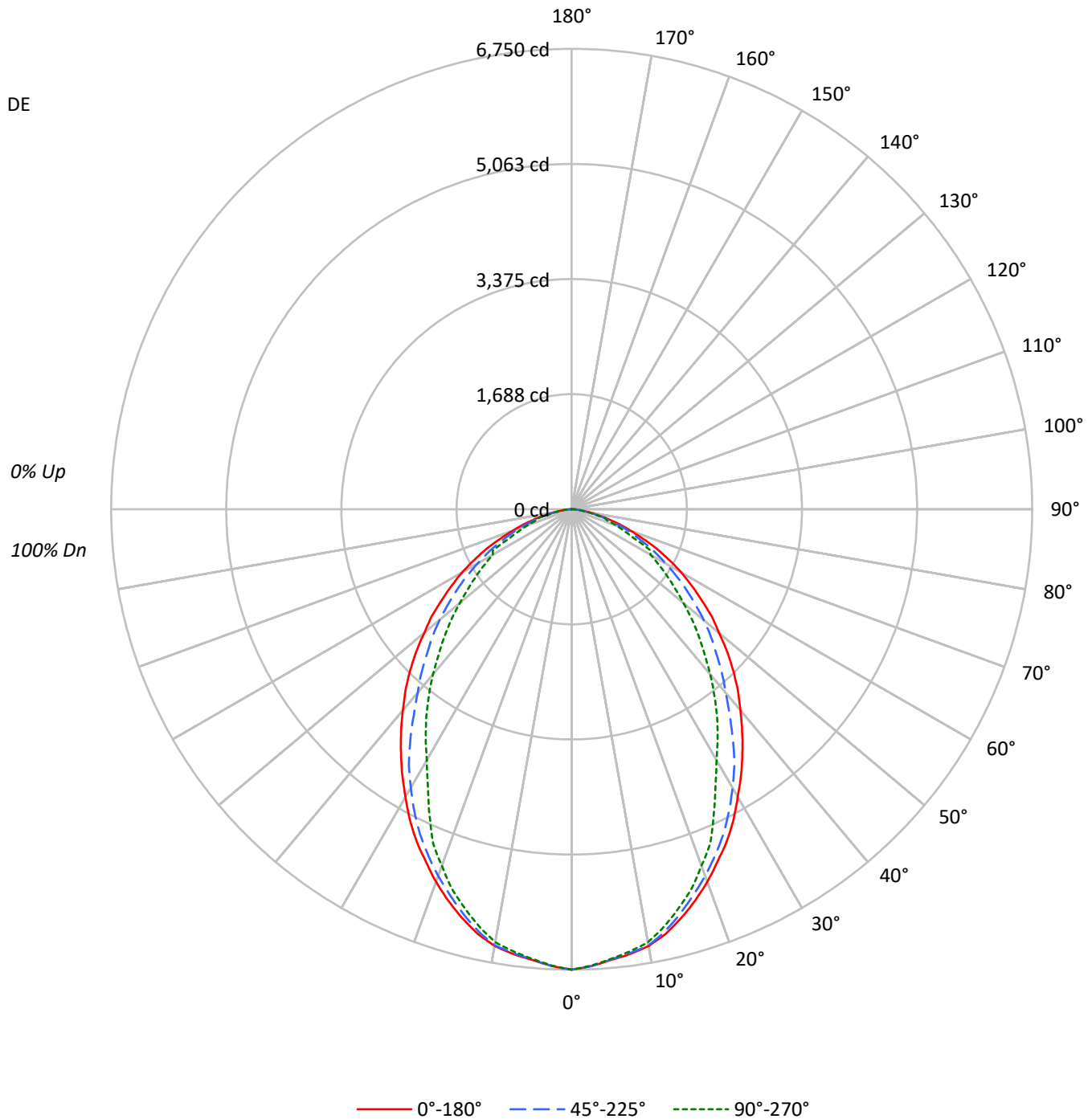
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	9082	9082	9082
5°	8958	8948	8937
10°	8881	8870	8806
15°	8641	8554	8435
20°	8324	8190	7966
25°	7982	7808	7322
30°	7565	7323	6595
35°	7165	6768	6101
40°	6757	6168	5551
45°	6370	5702	5019
50°	5897	5292	4475
55°	5455	4796	4009
60°	4998	4284	3591
65°	4397	3751	3180
70°	3622	3285	2701
75°	2880	2515	2637
80°	1935	1814	1693
85°	1204	1445	1686

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6370 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	628.3	4.7
10°-20°	1724.4	13.0
20°-30°	2387.3	18.0
30°-40°	2545.5	19.2
40°-50°	2322.3	17.5
50°-60°	1819.3	13.7
60°-70°	1185.8	8.9
70°-80°	525.3	4.0
80°-90°	112.8	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°	4740.0	35.8
0°-40°	7285.5	55.0
0°-60°	11427.1	86.2
0°-90°	13251.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13251.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6750	6750	6750	6750	6750	
5°	6633	6625	6625	6617	6617	630
15°	6204	6204	6141	6079	6055	1744
25°	5376	5345	5259	5072	4932	2468
35°	4362	4331	4120	3808	3714	2727
45°	3348	3277	2996	2747	2638	2579
55°	2325	2255	2044	1803	1709	2086
65°	1381	1303	1178	1202	999	1361
75°	554	515	484	460	507	594
85°	78	86	94	101	109	108
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6749.9	6749.9	6749.9	6749.9	6749.9
2.5°	6703.1	6703.1	6703.1	6695.3	6695.3
5°	6632.8	6625.0	6625.0	6617.2	6617.2
7.5°	6578.2	6570.4	6562.6	6554.8	6539.2
10°	6500.2	6500.2	6492.4	6453.4	6445.6
12.5°	6375.3	6367.5	6336.3	6281.7	6266.1
15°	6203.6	6203.6	6141.2	6078.8	6055.4
17.5°	6016.4	6008.6	5930.5	5868.1	5836.9
20°	5813.5	5797.9	5719.8	5618.4	5563.8
22.5°	5587.2	5587.2	5493.5	5360.9	5306.3
25°	5376.5	5345.3	5259.4	5072.2	4931.7
27.5°	5134.6	5087.8	4994.1	4728.8	4564.9
30°	4869.3	4845.9	4713.2	4369.9	4245.0
32.5°	4619.6	4580.6	4440.1	4081.1	3979.7
35°	4362.1	4330.8	4120.2	3808.0	3714.4
37.5°	4104.6	4065.5	3800.2	3550.5	3433.5
40°	3847.0	3800.2	3511.5	3285.2	3160.3
42.5°	3605.1	3542.7	3261.8	3019.9	2879.4
45°	3347.6	3277.4	2996.5	2746.8	2637.5
47.5°	3090.1	3027.7	2770.2	2512.7	2387.8
50°	2817.0	2762.4	2528.3	2270.8	2138.1
52.5°	2590.7	2504.9	2278.6	2021.1	1911.8
55°	2325.4	2255.2	2044.5	1802.6	1708.9
57.5°	2083.5	2013.3	1818.2	1591.9	1513.8
60°	1857.2	1755.7	1591.9	1396.8	1334.4
62.5°	1607.5	1529.5	1389.0	1225.1	1303.2
65°	1381.2	1303.2	1178.3	1201.7	998.8
67.5°	1131.5	1092.5	983.2	874.0	842.8
70°	920.8	874.0	835.0	717.9	686.7
72.5°	733.5	686.7	632.1	569.6	546.2
75°	554.0	515.0	483.8	460.4	507.2
77.5°	382.4	366.8	343.3	319.9	312.1
80°	249.7	241.9	234.1	226.3	218.5
82.5°	148.3	148.3	148.3	148.3	148.3
85°	78.0	85.8	93.6	101.4	109.2
87.5°	46.8	46.8	54.6	62.4	70.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)