

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: P563794

Luminaire Tested: FSR-24-4-LD4-4HI-50-UNV-82-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563794
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-LD4-4HI-50-UNV-82-85-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15596.0 lumens
Efficiency: N/A
Efficacy: 90.3 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

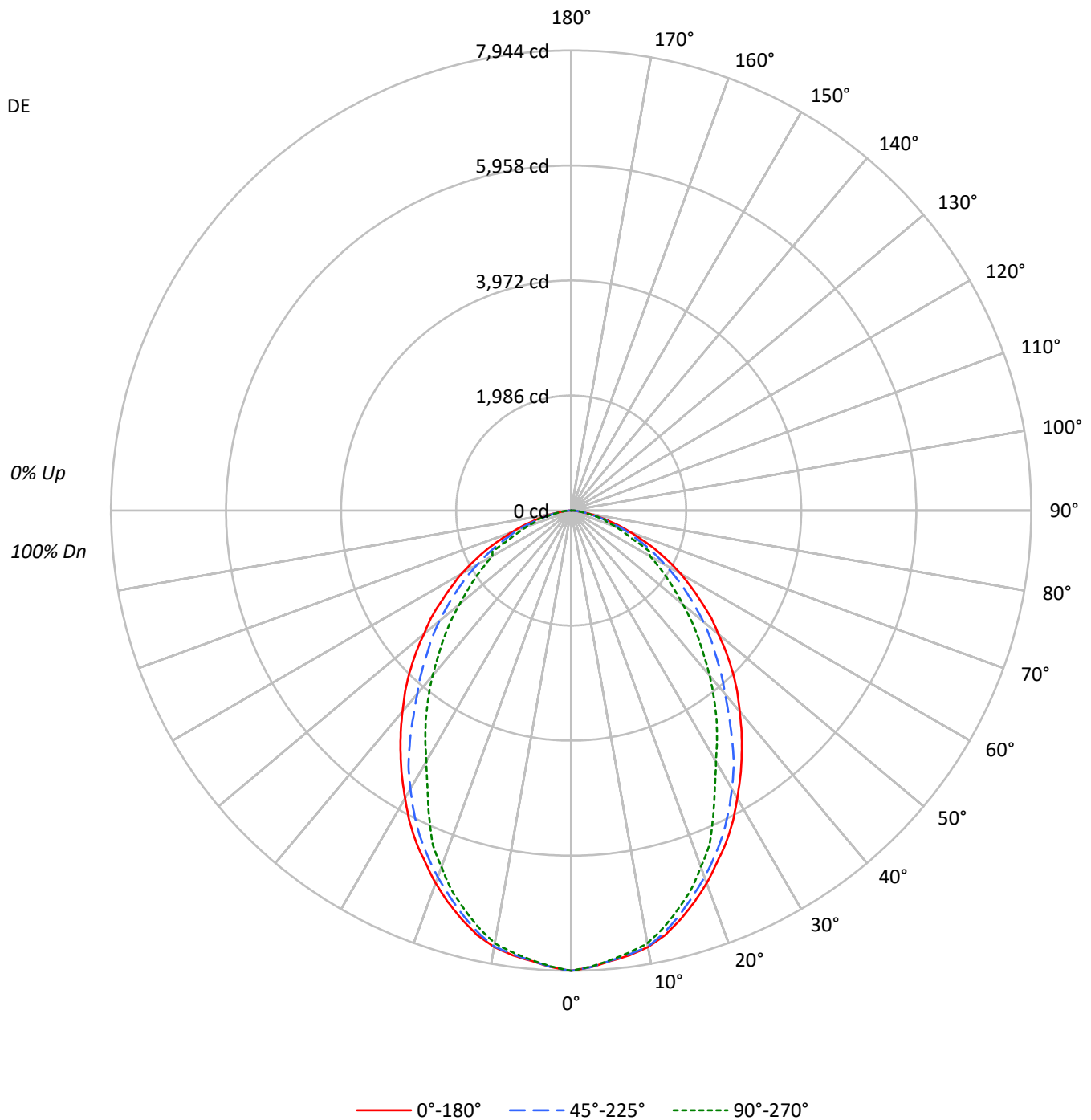
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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				
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°	10689	10689	10689
5°	10544	10531	10519
10°	10452	10440	10365
15°	10171	10068	9928
20°	9797	9639	9376
25°	9394	9190	8617
30°	8904	8618	7762
35°	8433	7965	7181
40°	7953	7259	6533
45°	7497	6711	5907
50°	6940	6229	5268
55°	6420	5645	4718
60°	5882	5042	4226
65°	5175	4415	3743
70°	4263	3866	3179
75°	3390	2960	3104
80°	2277	2135	1993
85°	1417	1701	1985

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7497 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	739.5	4.7
10°-20°	2029.5	13.0
20°-30°	2809.8	18.0
30°-40°	2996.0	19.2
40°-50°	2733.2	17.5
50°-60°	2141.3	13.7
60°-70°	1395.6	8.9
70°-80°	618.3	4.0
80°-90°	132.7	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°	5578.8	35.8
0°-40°	8574.8	55.0
0°-60°	13449.4	86.2
0°-90°	15596.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15596.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7944	7944	7944	7944	7944	
5°	7807	7797	7797	7788	7788	741
15°	7302	7302	7228	7154	7127	2053
25°	6328	6291	6190	5970	5804	2905
35°	5134	5097	4849	4482	4372	3210
45°	3940	3857	3527	3233	3104	3035
55°	2737	2654	2406	2122	2011	2455
65°	1626	1534	1387	1414	1176	1602
75°	652	606	569	542	597	699
85°	92	101	110	119	129	127
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7944.4	7944.4	7944.4	7944.4	7944.4
2.5°	7889.3	7889.3	7889.3	7880.1	7880.1
5°	7806.6	7797.4	7797.4	7788.3	7788.3
7.5°	7742.3	7733.2	7724.0	7714.8	7696.4
10°	7650.5	7650.5	7641.3	7595.4	7586.2
12.5°	7503.5	7494.4	7457.6	7393.3	7375.0
15°	7301.5	7301.5	7228.0	7154.5	7127.0
17.5°	7081.1	7071.9	6980.0	6906.6	6869.8
20°	6842.3	6823.9	6732.1	6612.7	6548.4
22.5°	6575.9	6575.9	6465.7	6309.6	6245.3
25°	6328.0	6291.2	6190.2	5969.8	5804.5
27.5°	6043.3	5988.1	5877.9	5565.7	5372.8
30°	5731.0	5703.4	5547.3	5143.2	4996.2
32.5°	5437.1	5391.2	5225.8	4803.4	4684.0
35°	5134.0	5097.3	4849.3	4481.9	4371.7
37.5°	4830.9	4785.0	4472.7	4178.8	4041.1
40°	4527.8	4472.7	4132.9	3866.6	3719.6
42.5°	4243.1	4169.7	3839.0	3554.3	3389.0
45°	3940.1	3857.4	3526.8	3232.9	3104.3
47.5°	3637.0	3563.5	3260.4	2957.3	2810.4
50°	3315.5	3251.2	2975.7	2672.6	2516.5
52.5°	3049.2	2948.2	2681.8	2378.7	2250.1
55°	2736.9	2654.3	2406.3	2121.6	2011.4
57.5°	2452.2	2369.5	2139.9	1873.6	1781.7
60°	2185.9	2066.5	1873.6	1644.0	1570.5
62.5°	1892.0	1800.1	1634.8	1441.9	1533.8
65°	1625.6	1533.8	1386.8	1414.4	1175.6
67.5°	1331.7	1285.8	1157.2	1028.6	991.9
70°	1083.7	1028.6	982.7	845.0	808.2
72.5°	863.3	808.2	743.9	670.5	642.9
75°	652.1	606.2	569.4	541.9	597.0
77.5°	450.0	431.7	404.1	376.6	367.4
80°	293.9	284.7	275.5	266.3	257.2
82.5°	174.5	174.5	174.5	174.5	174.5
85°	91.8	101.0	110.2	119.4	128.6
87.5°	55.1	55.1	64.3	73.5	82.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)