

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: P563911

Luminaire Tested: FSR-24-4-LD4-4LO-40-UNV-81-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563911
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-LD4-4LO-40-UNV-81-87-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

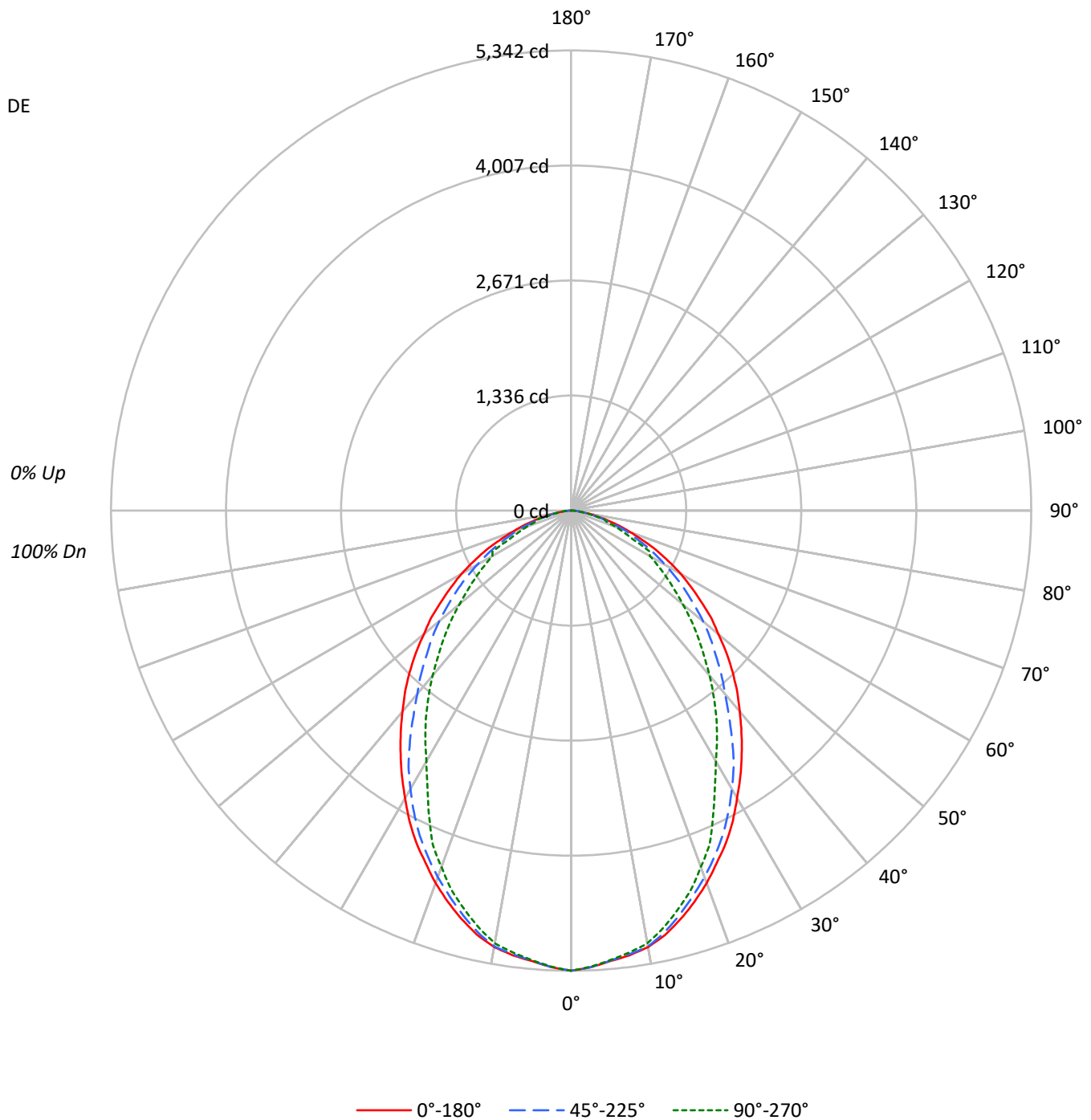
Lumens per Lamp: N/A
Luminaire Lumens: 10487.0 lumens
Efficiency: N/A
Efficacy: 112.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 93.6
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°	7187	7187	7187
5°	7090	7081	7073
10°	7028	7020	6969
15°	6839	6770	6675
20°	6588	6482	6305
25°	6317	6179	5794
30°	5987	5795	5220
35°	5670	5356	4828
40°	5348	4881	4393
45°	5041	4512	3972
50°	4667	4188	3542
55°	4317	3795	3173
60°	3955	3390	2842
65°	3480	2969	2517
70°	2867	2600	2138
75°	2280	1991	2087
80°	1531	1436	1340
85°	954	1144	1335

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5041 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	497.3	4.7
10°-20°	1364.7	13.0
20°-30°	1889.3	18.0
30°-40°	2014.6	19.2
40°-50°	1837.9	17.5
50°-60°	1439.8	13.7
60°-70°	938.4	8.9
70°-80°	415.8	4.0
80°-90°	89.3	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°	3751.3	35.8
0°-40°	5765.9	55.0
0°-60°	9043.6	86.2
0°-90°	10487.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10487.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5342	5342	5342	5342	5342	
5°	5249	5243	5243	5237	5237	498
15°	4910	4910	4860	4811	4792	1380
25°	4255	4230	4162	4014	3903	1953
35°	3452	3428	3261	3014	2940	2158
45°	2649	2594	2371	2174	2087	2041
55°	1840	1785	1618	1427	1352	1651
65°	1093	1031	932	951	790	1077
75°	438	408	383	364	401	470
85°	62	68	74	80	86	86
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5341.9	5341.9	5341.9	5341.9	5341.9
2.5°	5304.9	5304.9	5304.9	5298.7	5298.7
5°	5249.3	5243.1	5243.1	5237.0	5237.0
7.5°	5206.1	5199.9	5193.7	5187.5	5175.2
10°	5144.3	5144.3	5138.1	5107.3	5101.1
12.5°	5045.5	5039.3	5014.6	4971.4	4959.0
15°	4909.6	4909.6	4860.2	4810.8	4792.3
17.5°	4761.4	4755.3	4693.5	4644.1	4619.4
20°	4600.9	4588.5	4526.8	4446.5	4403.2
22.5°	4421.8	4421.8	4347.7	4242.7	4199.4
25°	4255.0	4230.3	4162.4	4014.2	3903.0
27.5°	4063.6	4026.5	3952.4	3742.4	3612.8
30°	3853.6	3835.1	3730.1	3458.4	3359.6
32.5°	3656.0	3625.1	3513.9	3229.9	3149.6
35°	3452.2	3427.5	3260.7	3013.7	2939.6
37.5°	3248.4	3217.5	3007.5	2809.9	2717.3
40°	3044.6	3007.5	2779.0	2599.9	2501.1
42.5°	2853.2	2803.7	2581.4	2390.0	2278.8
45°	2649.4	2593.8	2371.4	2173.8	2087.4
47.5°	2445.6	2396.2	2192.4	1988.6	1889.7
50°	2229.4	2186.2	2000.9	1797.1	1692.1
52.5°	2050.3	1982.4	1803.3	1599.5	1513.0
55°	1840.3	1784.8	1618.0	1426.6	1352.5
57.5°	1648.9	1593.3	1438.9	1259.8	1198.1
60°	1469.8	1389.5	1259.8	1105.4	1056.0
62.5°	1272.2	1210.4	1099.3	969.6	1031.3
65°	1093.1	1031.3	932.5	951.1	790.5
67.5°	895.5	864.6	778.1	691.7	667.0
70°	728.7	691.7	660.8	568.2	543.5
72.5°	580.5	543.5	500.2	450.8	432.3
75°	438.5	407.6	382.9	364.4	401.4
77.5°	302.6	290.3	271.7	253.2	247.0
80°	197.6	191.4	185.3	179.1	172.9
82.5°	117.3	117.3	117.3	117.3	117.3
85°	61.8	67.9	74.1	80.3	86.5
87.5°	37.1	37.1	43.2	49.4	55.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)