

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: P563588

Luminaire Tested: FSR-24-4-LD4-3STD-50-UNV-81-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563588
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-LD4-3STD-50-UNV-81-86-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9631.0 lumens
Efficiency: N/A
Efficacy: 96.4 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

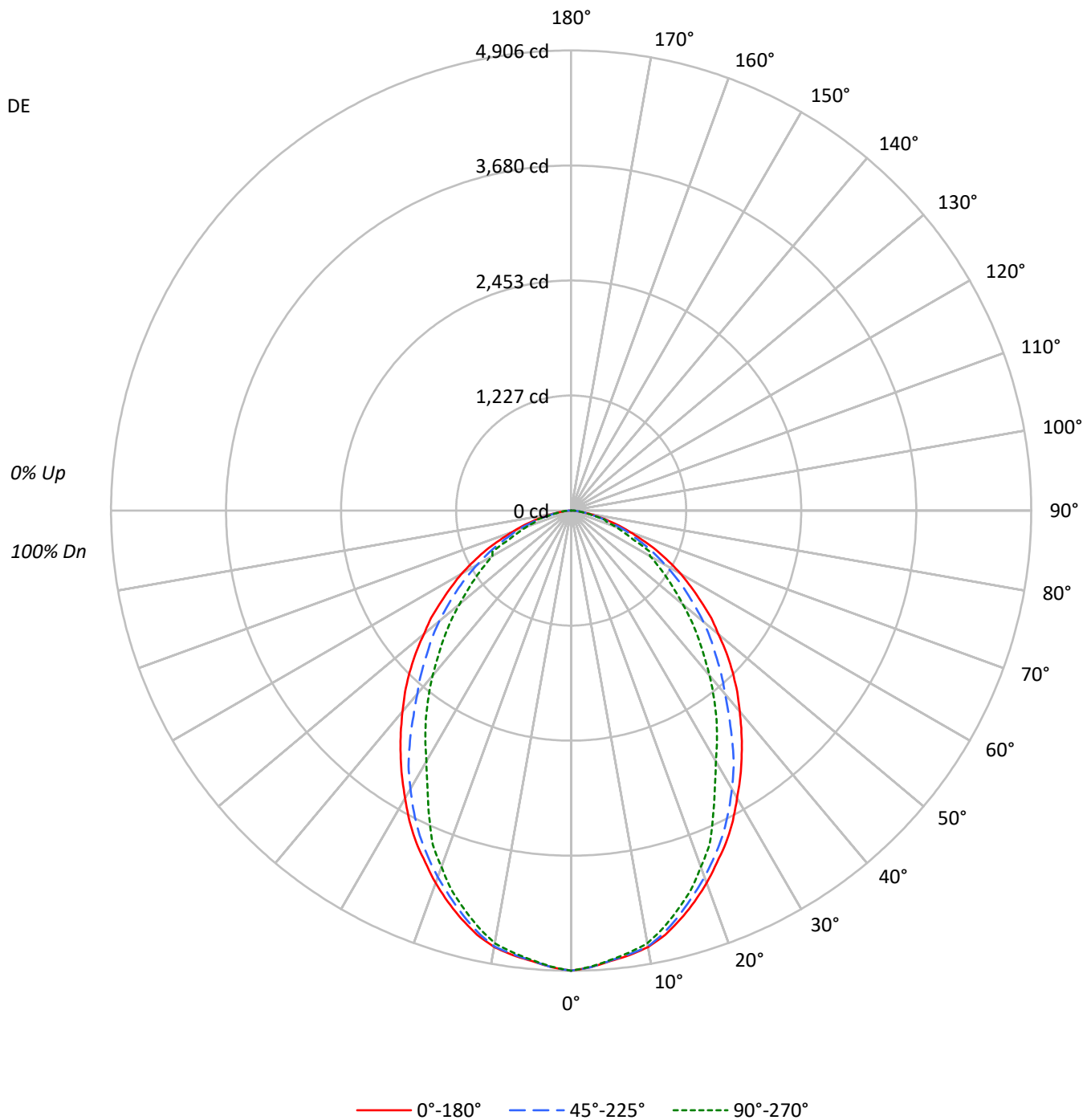
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6601	6601	6601
5°	6511	6504	6496
10°	6455	6447	6400
15°	6281	6217	6131
20°	6050	5953	5790
25°	5801	5675	5321
30°	5498	5322	4793
35°	5208	4919	4434
40°	4911	4483	4034
45°	4630	4144	3648
50°	4286	3846	3253
55°	3965	3486	2914
60°	3632	3113	2610
65°	3196	2727	2311
70°	2633	2388	1963
75°	2093	1828	1917
80°	1406	1318	1230
85°	875	1051	1226

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4630 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	456.7	4.7
10°-20°	1253.3	13.0
20°-30°	1735.1	18.0
30°-40°	1850.1	19.2
40°-50°	1687.9	17.5
50°-60°	1322.3	13.7
60°-70°	861.8	8.9
70°-80°	381.8	4.0
80°-90°	82.0	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°	3445.1	35.8
0°-40°	5295.2	55.0
0°-60°	8305.4	86.2
0°-90°	9631.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9631.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4906	4906	4906	4906	4906	
5°	4821	4815	4815	4810	4810	458
15°	4509	4509	4464	4418	4401	1268
25°	3908	3885	3823	3686	3584	1794
35°	3170	3148	2995	2768	2700	1982
45°	2433	2382	2178	1996	1917	1874
55°	1690	1639	1486	1310	1242	1516
65°	1004	947	856	873	726	989
75°	403	374	352	335	369	432
85°	57	62	68	74	79	79
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4905.9	4905.9	4905.9	4905.9	4905.9
2.5°	4871.9	4871.9	4871.9	4866.2	4866.2
5°	4820.8	4815.2	4815.2	4809.5	4809.5
7.5°	4781.1	4775.5	4769.8	4764.1	4752.8
10°	4724.4	4724.4	4718.7	4690.4	4684.7
12.5°	4633.7	4628.0	4605.3	4565.6	4554.3
15°	4508.9	4508.9	4463.5	4418.1	4401.1
17.5°	4372.8	4367.1	4310.4	4265.0	4242.3
20°	4225.3	4214.0	4157.3	4083.5	4043.8
22.5°	4060.8	4060.8	3992.8	3896.4	3856.7
25°	3907.7	3885.0	3822.6	3686.5	3584.4
27.5°	3731.9	3697.9	3629.8	3437.0	3317.9
30°	3539.1	3522.0	3425.6	3176.1	3085.3
32.5°	3357.6	3329.2	3227.1	2966.2	2892.5
35°	3170.4	3147.7	2994.6	2767.7	2699.7
37.5°	2983.2	2954.9	2762.1	2580.6	2495.5
40°	2796.1	2762.1	2552.2	2387.7	2297.0
42.5°	2620.3	2574.9	2370.7	2194.9	2092.8
45°	2433.1	2382.1	2177.9	1996.4	1917.0
47.5°	2245.9	2200.6	2013.4	1826.2	1735.5
50°	2047.4	2007.7	1837.6	1650.4	1554.0
52.5°	1883.0	1820.6	1656.1	1468.9	1389.5
55°	1690.1	1639.1	1485.9	1310.1	1242.1
57.5°	1514.3	1463.3	1321.5	1157.0	1100.3
60°	1349.8	1276.1	1157.0	1015.2	969.8
62.5°	1168.3	1111.6	1009.5	890.4	947.2
65°	1003.9	947.2	856.4	873.4	726.0
67.5°	822.4	794.0	714.6	635.2	612.5
70°	669.2	635.2	606.9	521.8	499.1
72.5°	533.1	499.1	459.4	414.0	397.0
75°	402.7	374.3	351.6	334.6	368.7
77.5°	277.9	266.6	249.5	232.5	226.9
80°	181.5	175.8	170.1	164.5	158.8
82.5°	107.8	107.8	107.8	107.8	107.8
85°	56.7	62.4	68.1	73.7	79.4
87.5°	34.0	34.0	39.7	45.4	51.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)