

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: P563616

Luminaire Tested: FSR-24-4-LD4-3STD-50-UNV-93-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563616
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-93-84-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10482.0 lumens
Efficiency: N/A
Efficacy: 104.9 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

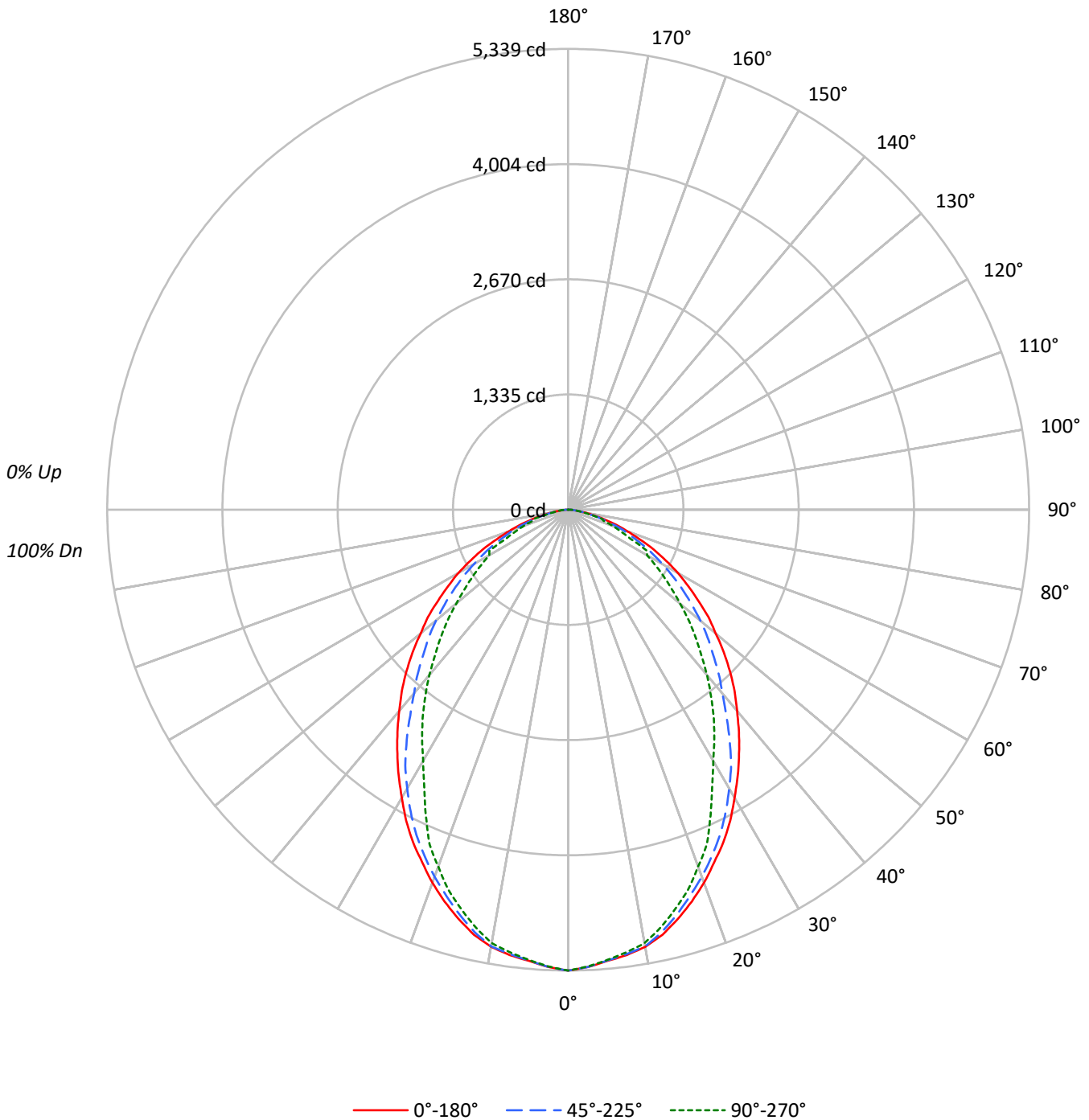
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	7184	7184	7184
5°	7086	7078	7070
10°	7025	7017	6966
15°	6836	6767	6672
20°	6585	6479	6302
25°	6314	6176	5792
30°	5984	5792	5217
35°	5668	5353	4826
40°	5345	4879	4391
45°	5039	4510	3970
50°	4664	4186	3540
55°	4315	3794	3171
60°	3953	3388	2840
65°	3479	2968	2515
70°	2865	2598	2137
75°	2279	1989	2086
80°	1530	1435	1339
85°	953	1144	1334

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5039 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	497.0	4.7
10°-20°	1364.0	13.0
20°-30°	1888.4	18.0
30°-40°	2013.6	19.2
40°-50°	1837.0	17.5
50°-60°	1439.1	13.7
60°-70°	938.0	8.9
70°-80°	415.6	4.0
80°-90°	89.2	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°	3749.5	35.8
0°-40°	5763.1	55.0
0°-60°	9039.2	86.2
0°-90°	10482.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10482.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5339	5339	5339	5339	5339	
5°	5247	5241	5241	5234	5234	498
15°	4907	4907	4858	4808	4790	1380
25°	4253	4228	4160	4012	3901	1953
35°	3450	3426	3259	3012	2938	2157
45°	2648	2592	2370	2173	2086	2040
55°	1840	1784	1617	1426	1352	1650
65°	1093	1031	932	951	790	1077
75°	438	407	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°	5339.4	5339.4	5339.4	5339.4	5339.4
2.5°	5302.4	5302.4	5302.4	5296.2	5296.2
5°	5246.8	5240.6	5240.6	5234.5	5234.5
7.5°	5203.6	5197.4	5191.2	5185.1	5172.7
10°	5141.9	5141.9	5135.7	5104.8	5098.7
12.5°	5043.1	5036.9	5012.2	4969.0	4956.7
15°	4907.3	4907.3	4857.9	4808.5	4790.0
17.5°	4759.2	4753.0	4691.3	4641.9	4617.2
20°	4598.7	4586.3	4524.6	4444.3	4401.1
22.5°	4419.7	4419.7	4345.6	4240.6	4197.4
25°	4253.0	4228.3	4160.4	4012.3	3901.2
27.5°	4061.6	4024.6	3950.5	3740.7	3611.0
30°	3851.8	3833.3	3728.3	3456.7	3358.0
32.5°	3654.2	3623.4	3512.3	3228.3	3148.1
35°	3450.5	3425.9	3259.2	3012.3	2938.2
37.5°	3246.8	3216.0	3006.1	2808.6	2716.0
40°	3043.1	3006.1	2777.7	2598.7	2499.9
42.5°	2851.8	2802.4	2580.2	2388.8	2277.7
45°	2648.1	2592.5	2370.3	2172.8	2086.4
47.5°	2444.4	2395.0	2191.3	1987.6	1888.8
50°	2228.3	2185.1	2000.0	1796.3	1691.3
52.5°	2049.3	1981.4	1802.4	1598.7	1512.3
55°	1839.5	1783.9	1617.2	1425.9	1351.8
57.5°	1648.1	1592.6	1438.2	1259.2	1197.5
60°	1469.1	1388.9	1259.2	1104.9	1055.5
62.5°	1271.6	1209.9	1098.7	969.1	1030.8
65°	1092.6	1030.8	932.1	950.6	790.1
67.5°	895.0	864.2	777.8	691.3	666.7
70°	728.4	691.3	660.5	567.9	543.2
72.5°	580.2	543.2	500.0	450.6	432.1
75°	438.3	407.4	382.7	364.2	401.2
77.5°	302.5	290.1	271.6	253.1	246.9
80°	197.5	191.4	185.2	179.0	172.8
82.5°	117.3	117.3	117.3	117.3	117.3
85°	61.7	67.9	74.1	80.2	86.4
87.5°	37.0	37.0	43.2	49.4	55.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)