

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: P559170

Luminaire Tested: FSR-12-1-LD4-2HI-50-UNV-81-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P559170
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-12-1-LD4-2HI-50-UNV-81-85-EDD-90
Description: 1X1 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

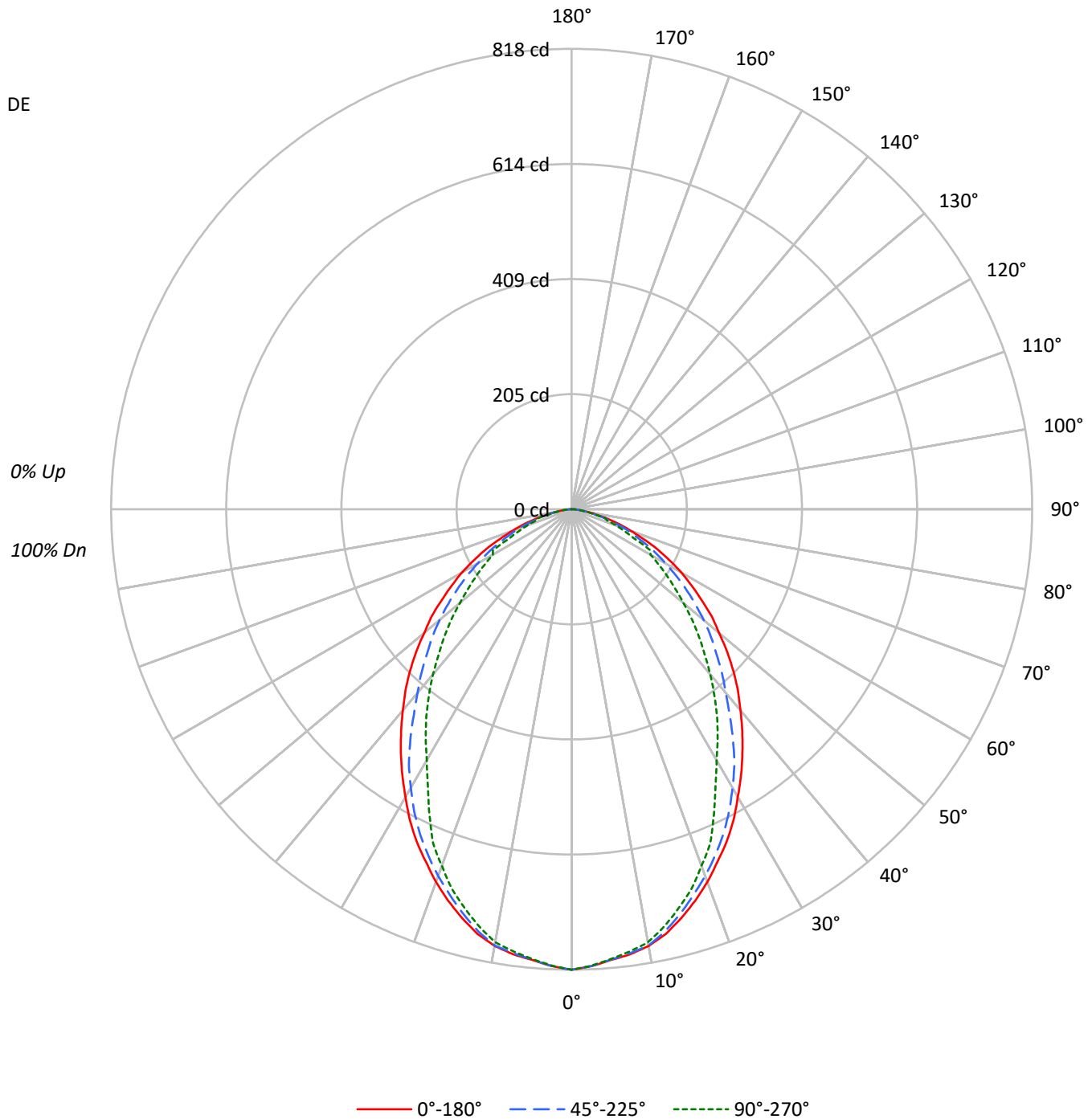
Lumens per Lamp: N/A
Luminaire Lumens: 1606.0 lumens
Efficiency: N/A
Efficacy: 74.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
CIE Type: Direct

Input Watts (W): 21.6
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	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°	8806	8806	8806
5°	8686	8675	8666
10°	8611	8601	8538
15°	8379	8294	8178
20°	8071	7940	7724
25°	7739	7570	7099
30°	7334	7100	6395
35°	6947	6562	5916
40°	6552	5980	5382
45°	6176	5529	4867
50°	5717	5131	4339
55°	5288	4650	3887
60°	4846	4153	3481
65°	4264	3637	3084
70°	3512	3185	2618
75°	2791	2437	2558
80°	1878	1760	1643
85°	1173	1396	1630

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6176 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.2	4.7
10°-20°	209.0	13.0
20°-30°	289.3	18.0
30°-40°	308.5	19.2
40°-50°	281.5	17.5
50°-60°	220.5	13.7
60°-70°	143.7	8.9
70°-80°	63.7	4.0
80°-90°	13.7	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°	574.5	35.8
0°-40°	883.0	55.0
0°-60°	1384.9	86.2
0°-90°	1606.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1606.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	818	818	818	818	818	
5°	804	803	803	802	802	76
15°	752	752	744	737	734	211
25°	652	648	637	615	598	299
35°	529	525	499	462	450	331
45°	406	397	363	333	320	313
55°	282	273	248	218	207	253
65°	167	158	143	146	121	165
75°	67	62	59	56	62	72
85°	10	10	11	12	13	13
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	<i>818.1</i>	<i>818.1</i>	<i>818.1</i>	<i>818.1</i>	<i>818.1</i>
2.5°	<i>812.4</i>	812.4	812.4	811.5	811.5
5°	<i>803.9</i>	802.9	802.9	802.0	802.0
7.5°	<i>797.3</i>	796.3	795.4	794.4	792.5
10°	<i>787.8</i>	787.8	786.9	782.1	781.2
12.5°	<i>772.7</i>	771.7	768.0	761.3	759.4
15°	<i>751.9</i>	751.9	744.3	736.7	733.9
17.5°	<i>729.2</i>	728.2	718.8	711.2	707.4
20°	<i>704.6</i>	702.7	693.2	680.9	674.3
22.5°	<i>677.2</i>	677.2	665.8	649.7	643.1
25°	<i>651.6</i>	647.8	637.4	614.7	597.7
27.5°	<i>622.3</i>	616.6	605.3	573.1	553.3
30°	<i>590.1</i>	587.3	571.2	529.6	514.5
32.5°	<i>559.9</i>	555.2	538.1	494.6	482.3
35°	<i>528.7</i>	524.9	499.4	461.5	450.2
37.5°	<i>497.5</i>	492.7	460.6	430.3	416.1
40°	<i>466.3</i>	460.6	425.6	398.2	383.0
42.5°	<i>436.9</i>	429.4	395.3	366.0	349.0
45°	<i>405.7</i>	397.2	363.2	332.9	319.7
47.5°	<i>374.5</i>	367.0	335.7	304.5	289.4
50°	<i>341.4</i>	334.8	306.4	275.2	259.1
52.5°	<i>314.0</i>	303.6	276.2	244.9	231.7
55°	<i>281.8</i>	273.3	247.8	218.5	207.1
57.5°	<i>252.5</i>	244.0	220.4	192.9	183.5
60°	<i>225.1</i>	212.8	192.9	169.3	161.7
62.5°	<i>194.8</i>	185.4	168.3	148.5	157.9
65°	<i>167.4</i>	157.9	142.8	145.6	121.1
67.5°	<i>137.1</i>	132.4	119.2	105.9	102.1
70°	<i>111.6</i>	105.9	101.2	87.0	83.2
72.5°	<i>88.9</i>	83.2	76.6	69.0	66.2
75°	<i>67.1</i>	62.4	58.6	55.8	61.5
77.5°	<i>46.3</i>	44.5	41.6	38.8	37.8
80°	<i>30.3</i>	29.3	28.4	27.4	26.5
82.5°	<i>18.0</i>	18.0	18.0	18.0	18.0
85°	<i>9.5</i>	10.4	11.3	12.3	13.2
87.5°	<i>5.7</i>	5.7	6.6	7.6	8.5
90°	<i>0.0</i>	0.0	0.0	0.0	0.0

(END OF REPORT)