

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: P589920

Luminaire Tested: FSR-24-2-LD4-1HI-50-UNV-81-87-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P589920
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-1HI-50-UNV-81-87-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

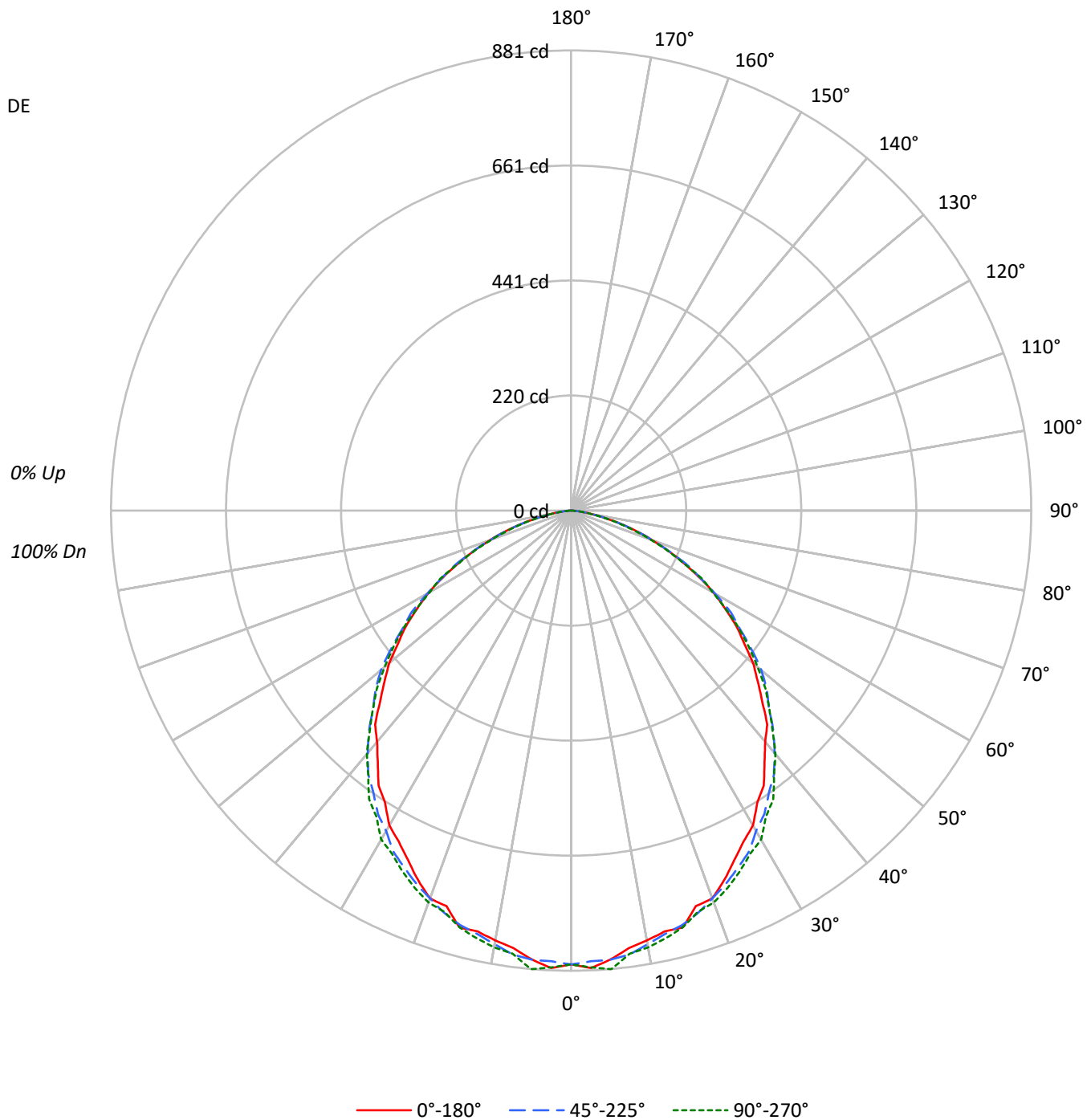
Lumens per Lamp: N/A
Luminaire Lumens: 2190.0 lumens
Efficiency: N/A
Efficacy: 101.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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	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	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86																												
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73																												
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62																												
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53																												
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46																												
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41																												
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36																												
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32																												
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29																												
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2338	2338	2338
5°	2331	2331	2381
10°	2283	2303	2320
15°	2301	2289	2302
20°	2263	2263	2287
25°	2193	2241	2265
30°	2163	2201	2259
35°	2112	2167	2216
40°	2030	2127	2137
45°	1968	2038	2041
50°	1904	1990	1952
55°	1814	1849	1836
60°	1696	1713	1682
65°	1512	1551	1501
70°	1297	1302	1266
75°	1027	1025	986
80°	688	669	643
85°	374	371	346

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 2091 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.7	3.7
10°-20°	231.7	10.6
20°-30°	347.1	15.8
30°-40°	411.3	18.8
40°-50°	412.1	18.8
50°-60°	349.8	16.0
60°-70°	235.8	10.8
70°-80°	103.6	4.7
80°-90°	16.8	0.8
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°	660.5	30.2
0°-40°	1071.8	48.9
0°-60°	1833.7	83.7
0°-90°	2190.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2190.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	869	869	869	869	869	
5°	863	861	863	860	881	81
15°	826	816	822	826	826	230
25°	739	743	755	765	763	341
35°	643	645	660	675	674	399
45°	517	527	536	549	536	400
55°	387	384	394	391	391	344
65°	238	234	244	234	236	236
75°	99	97	99	92	95	106
85°	12	12	12	12	11	18
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	868.9	868.9	868.9	868.9	868.9
2.5°	876.5	869.8	863.7	870.8	875.2
5°	862.8	860.7	863.1	860.5	881.3
7.5°	845.0	852.8	857.3	854.5	855.7
10°	835.6	832.9	842.9	849.9	848.9
12.5°	825.5	829.6	830.1	837.6	838.3
15°	826.1	816.5	821.6	825.9	826.2
17.5°	794.0	804.3	807.8	817.6	805.4
20°	790.1	782.5	790.1	800.1	798.5
22.5°	765.9	757.5	773.7	782.5	782.0
25°	738.6	742.6	754.7	764.6	763.0
27.5°	714.6	719.3	736.5	750.1	741.4
30°	696.0	693.7	708.3	720.4	727.1
32.5°	662.9	671.5	688.5	700.5	694.1
35°	642.9	644.8	659.7	675.0	674.5
37.5°	607.8	616.6	637.6	641.9	637.9
40°	577.8	586.7	605.6	610.2	608.3
42.5°	555.7	557.3	573.5	578.8	570.4
45°	517.2	526.9	535.6	549.4	536.4
47.5°	484.5	488.9	507.8	511.5	504.6
50°	454.7	456.3	475.3	470.7	466.2
52.5°	417.4	424.0	434.6	433.7	428.5
55°	386.6	384.0	394.1	391.4	391.3
57.5°	349.7	354.2	362.5	358.2	351.4
60°	315.2	315.3	318.3	313.5	312.6
62.5°	276.7	278.0	278.7	272.7	282.4
65°	237.5	234.4	243.6	234.3	235.8
67.5°	201.5	203.1	202.2	196.3	198.6
70°	164.9	166.9	165.5	158.9	160.9
72.5°	131.5	129.0	130.6	122.3	126.1
75°	98.8	96.8	98.6	91.7	94.8
77.5°	67.3	68.9	67.8	64.1	66.2
80°	44.4	43.2	43.2	41.1	41.5
82.5°	25.9	24.7	24.3	23.7	24.7
85°	12.1	11.8	12.0	11.7	11.2
87.5°	4.4	4.5	4.5	4.3	4.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)