

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: P561360

Luminaire Tested: FSR-12-4-LD4-2HI-35-UNV-82-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561360
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-12-4-LD4-2HI-35-UNV-82-84-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

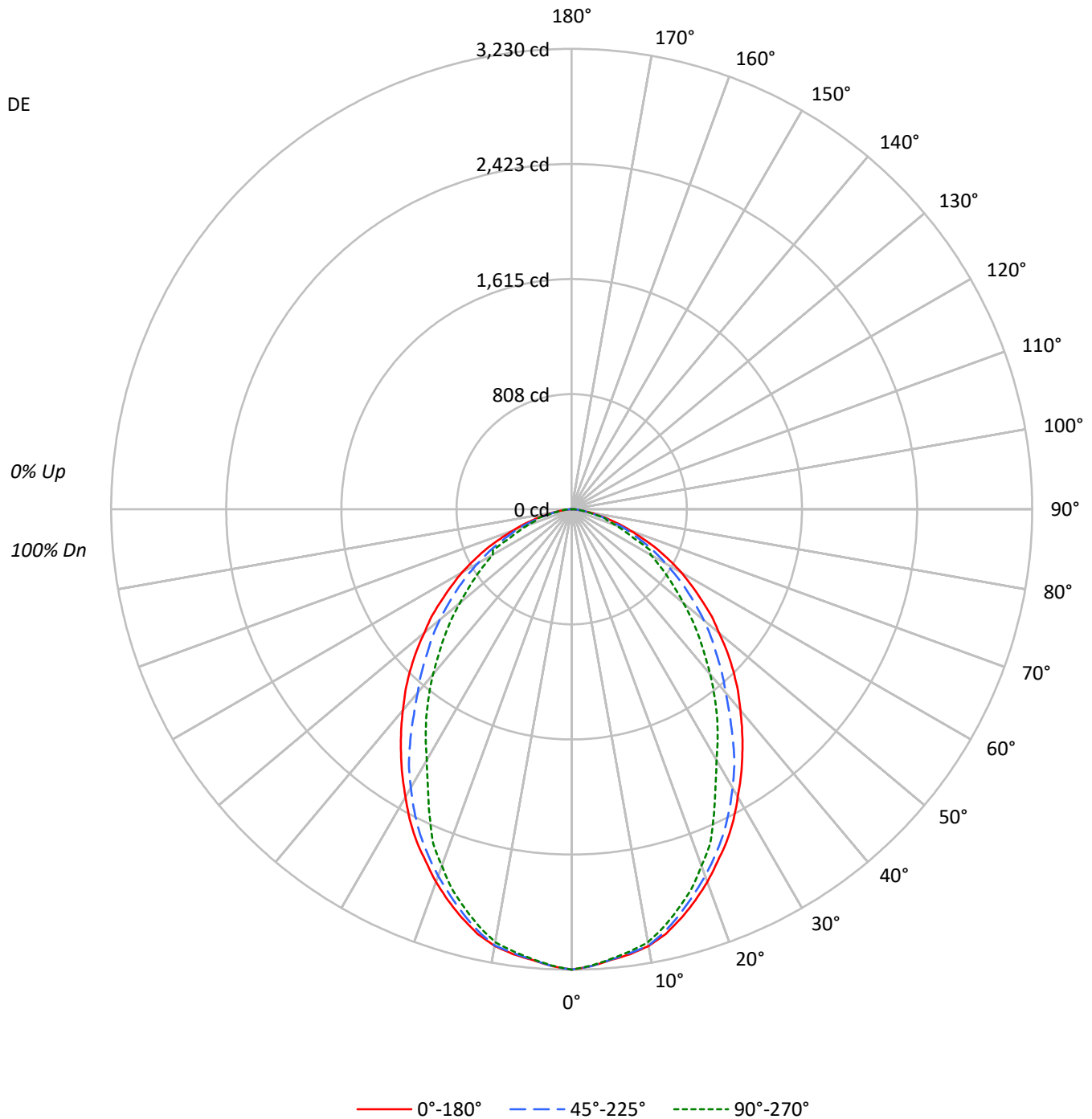
Lumens per Lamp: N/A
Luminaire Lumens: 6341.0 lumens
Efficiency: N/A
Efficacy: 73.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
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°	8692	8692	8692
5°	8574	8564	8554
10°	8499	8489	8428
15°	8270	8187	8073
20°	7966	7838	7624
25°	7639	7473	7007
30°	7240	7008	6312
35°	6857	6477	5839
40°	6467	5903	5312
45°	6096	5457	4803
50°	5643	5065	4284
55°	5221	4590	3837
60°	4783	4100	3436
65°	4208	3591	3044
70°	3467	3144	2585
75°	2756	2407	2523
80°	1852	1736	1621
85°	1152	1383	1615

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6096 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	300.7	4.7
10°-20°	825.2	13.0
20°-30°	1142.4	18.0
30°-40°	1218.1	19.2
40°-50°	1111.3	17.5
50°-60°	870.6	13.7
60°-70°	567.4	8.9
70°-80°	251.4	4.0
80°-90°	54.0	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°	2268.2	35.8
0°-40°	3486.3	55.0
0°-60°	5468.2	86.2
0°-90°	6341.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6341.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3230	3230	3230	3230	3230	
5°	3174	3170	3170	3166	3166	301
15°	2969	2969	2939	2909	2898	835
25°	2573	2558	2517	2427	2360	1181
35°	2087	2072	1972	1822	1777	1305
45°	1602	1568	1434	1314	1262	1234
55°	1113	1079	978	863	818	998
65°	661	624	564	575	478	651
75°	265	246	232	220	243	284
85°	37	41	45	48	52	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3230.0	3230.0	3230.0	3230.0	3230.0
2.5°	3207.6	3207.6	3207.6	3203.9	3203.9
5°	3174.0	3170.3	3170.3	3166.5	3166.5
7.5°	3147.9	3144.1	3140.4	3136.7	3129.2
10°	3110.5	3110.5	3106.8	3088.1	3084.4
12.5°	3050.8	3047.0	3032.1	3006.0	2998.5
15°	2968.6	2968.6	2938.8	2908.9	2897.7
17.5°	2879.0	2875.3	2837.9	2808.1	2793.1
20°	2781.9	2774.5	2737.1	2688.6	2662.4
22.5°	2673.6	2673.6	2628.8	2565.3	2539.2
25°	2572.8	2557.9	2516.8	2427.2	2360.0
27.5°	2457.1	2434.7	2389.8	2262.9	2184.5
30°	2330.1	2318.9	2255.4	2091.1	2031.4
32.5°	2210.6	2191.9	2124.7	1952.9	1904.4
35°	2087.4	2072.4	1971.6	1822.3	1777.4
37.5°	1964.2	1945.5	1818.5	1699.0	1643.0
40°	1840.9	1818.5	1680.4	1572.1	1512.3
42.5°	1725.2	1695.3	1560.9	1445.1	1377.9
45°	1601.9	1568.3	1433.9	1314.4	1262.1
47.5°	1478.7	1448.8	1325.6	1202.4	1142.6
50°	1348.0	1321.9	1209.9	1086.6	1023.2
52.5°	1239.7	1198.7	1090.4	967.1	914.9
55°	1112.8	1079.2	978.3	862.6	817.8
57.5°	997.0	963.4	870.1	761.8	724.4
60°	888.7	840.2	761.8	668.4	638.5
62.5°	769.2	731.9	664.7	586.3	623.6
65°	660.9	623.6	563.9	575.1	478.0
67.5°	541.4	522.8	470.5	418.2	403.3
70°	440.6	418.2	399.6	343.5	328.6
72.5°	351.0	328.6	302.5	272.6	261.4
75°	265.1	246.5	231.5	220.3	242.7
77.5°	183.0	175.5	164.3	153.1	149.4
80°	119.5	115.8	112.0	108.3	104.6
82.5°	70.9	70.9	70.9	70.9	70.9
85°	37.3	41.1	44.8	48.5	52.3
87.5°	22.4	22.4	26.1	29.9	33.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)