

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: P561409

Luminaire Tested: FSR-12-4-LD4-2HI-40-UNV-81-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561409
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-40-UNV-81-84-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7818.0 lumens
Efficiency: N/A
Efficacy: 90.5 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

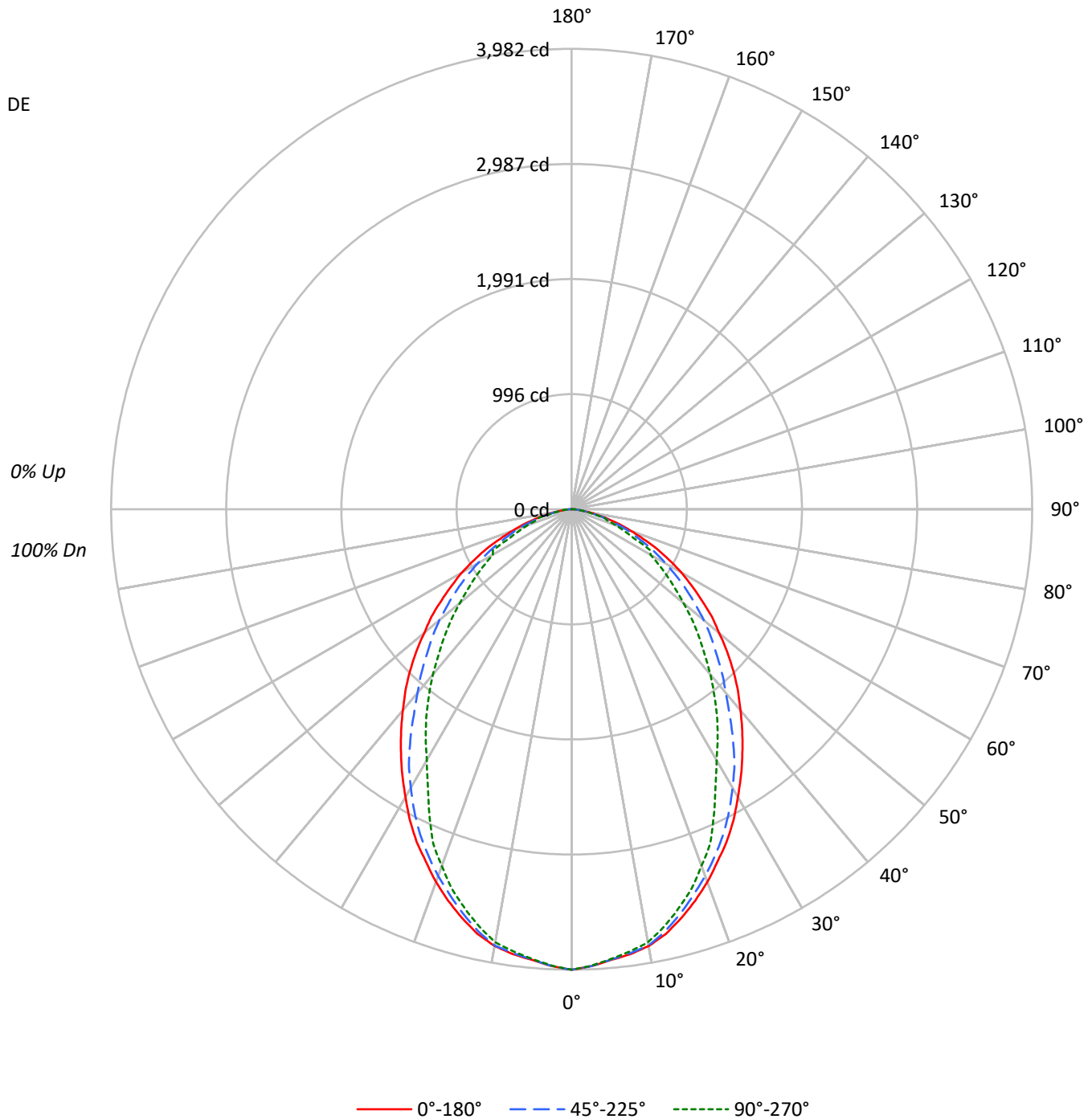
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	10717	10717	10717
5°	10571	10558	10546
10°	10479	10467	10391
15°	10197	10094	9953
20°	9822	9664	9400
25°	9418	9213	8639
30°	8927	8641	7782
35°	8454	7986	7199
40°	7973	7278	6550
45°	7516	6728	5922
50°	6958	6245	5281
55°	6437	5659	4731
60°	5897	5055	4237
65°	5189	4427	3752
70°	4275	3876	3187
75°	3399	2967	3112
80°	2283	2140	1998
85°	1420	1704	1991

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7516 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	370.7	4.7
10°-20°	1017.4	13.0
20°-30°	1408.5	18.0
30°-40°	1501.9	19.2
40°-50°	1370.1	17.5
50°-60°	1073.4	13.7
60°-70°	699.6	8.9
70°-80°	309.9	4.0
80°-90°	66.5	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°	2796.6	35.8
0°-40°	4298.4	55.0
0°-60°	6741.9	86.2
0°-90°	7818.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7818.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3982	3982	3982	3982	3982	
5°	3913	3909	3909	3904	3904	371
15°	3660	3660	3623	3586	3573	1029
25°	3172	3154	3103	2992	2910	1456
35°	2574	2555	2431	2247	2192	1609
45°	1975	1934	1768	1621	1556	1521
55°	1372	1330	1206	1064	1008	1231
65°	815	769	695	709	589	803
75°	327	304	285	272	299	350
85°	46	51	55	60	64	64
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3982.4	3982.4	3982.4	3982.4	3982.4
2.5°	3954.8	3954.8	3954.8	3950.2	3950.2
5°	3913.3	3908.7	3908.7	3904.1	3904.1
7.5°	3881.1	3876.5	3871.9	3867.3	3858.1
10°	3835.1	3835.1	3830.5	3807.4	3802.8
12.5°	3761.4	3756.8	3738.4	3706.1	3696.9
15°	3660.1	3660.1	3623.3	3586.4	3572.6
17.5°	3549.6	3545.0	3499.0	3462.1	3443.7
20°	3429.9	3420.7	3374.7	3314.8	3282.6
22.5°	3296.4	3296.4	3241.2	3162.9	3130.7
25°	3172.1	3153.7	3103.0	2992.5	2909.7
27.5°	3029.4	3001.8	2946.5	2790.0	2693.3
30°	2872.8	2859.0	2780.8	2578.2	2504.5
32.5°	2725.5	2702.5	2619.6	2407.8	2348.0
35°	2573.6	2555.2	2430.9	2246.7	2191.5
37.5°	2421.7	2398.6	2242.1	2094.8	2025.7
40°	2269.7	2242.1	2071.8	1938.2	1864.6
42.5°	2127.0	2090.2	1924.4	1781.7	1698.8
45°	1975.1	1933.6	1767.9	1620.6	1556.1
47.5°	1823.1	1786.3	1634.4	1482.5	1408.8
50°	1662.0	1629.8	1491.7	1339.7	1261.5
52.5°	1528.5	1477.9	1344.3	1192.4	1128.0
55°	1372.0	1330.5	1206.2	1063.5	1008.3
57.5°	1229.2	1187.8	1072.7	939.2	893.2
60°	1095.7	1035.9	939.2	824.1	787.3
62.5°	948.4	902.4	819.5	722.8	768.9
65°	814.9	768.9	695.2	709.0	589.3
67.5°	667.6	644.5	580.1	515.6	497.2
70°	543.3	515.6	492.6	423.6	405.1
72.5°	432.8	405.1	372.9	336.1	322.3
75°	326.9	303.9	285.4	271.6	299.3
77.5°	225.6	216.4	202.6	188.8	184.2
80°	147.3	142.7	138.1	133.5	128.9
82.5°	87.5	87.5	87.5	87.5	87.5
85°	46.0	50.6	55.2	59.9	64.5
87.5°	27.6	27.6	32.2	36.8	41.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)