

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: P563160

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-82-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563160
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-LD4-3HI-40-UNV-82-88-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

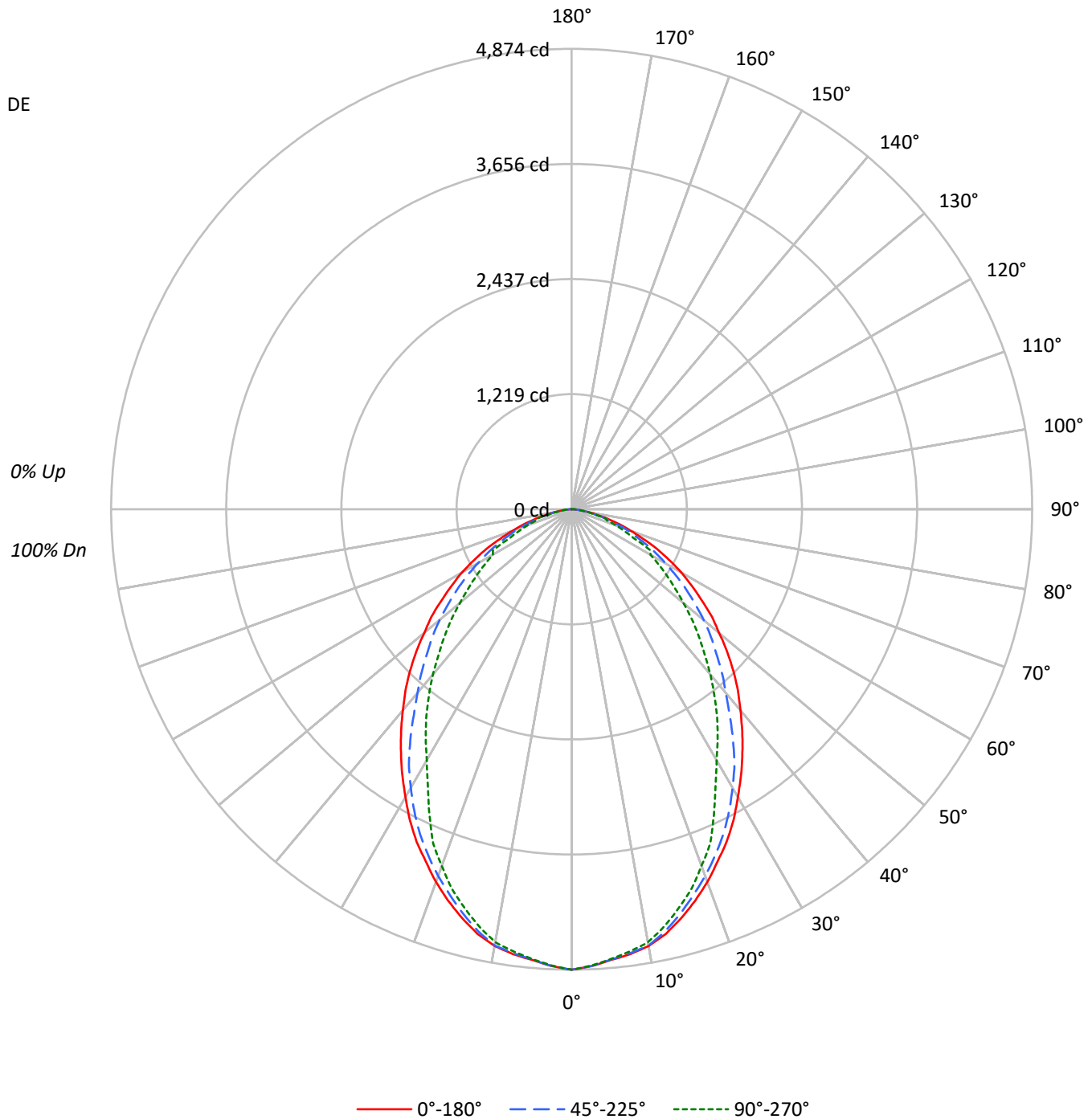
Lumens per Lamp: N/A
Luminaire Lumens: 9569.0 lumens
Efficiency: N/A
Efficacy: 73.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 129.6
Input Voltage (V):
Input Current (A_{in}): 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	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°	6558	6558	6558
5°	6469	6462	6454
10°	6413	6406	6359
15°	6240	6177	6091
20°	6011	5914	5753
25°	5764	5638	5287
30°	5463	5288	4763
35°	5174	4887	4406
40°	4879	4454	4008
45°	4600	4117	3624
50°	4258	3822	3232
55°	3939	3463	2895
60°	3609	3094	2593
65°	3175	2709	2296
70°	2616	2372	1951
75°	2080	1816	1904
80°	1397	1310	1223
85°	871	1044	1218

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4600 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	453.7	4.7
10°-20°	1245.2	13.0
20°-30°	1723.9	18.0
30°-40°	1838.2	19.2
40°-50°	1677.0	17.5
50°-60°	1313.8	13.7
60°-70°	856.3	8.9
70°-80°	379.4	4.0
80°-90°	81.5	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°	3422.9	35.8
0°-40°	5261.1	55.0
0°-60°	8251.9	86.2
0°-90°	9569.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9569.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4874	4874	4874	4874	4874	
5°	4790	4784	4784	4778	4778	455
15°	4480	4480	4435	4390	4373	1259
25°	3883	3860	3798	3663	3561	1782
35°	3150	3128	2975	2750	2682	1969
45°	2417	2367	2164	1984	1905	1862
55°	1679	1628	1476	1302	1234	1506
65°	997	941	851	868	721	983
75°	400	372	349	332	366	429
85°	56	62	68	73	79	78
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4874.3	4874.3	4874.3	4874.3	4874.3
2.5°	4840.5	4840.5	4840.5	4834.9	4834.9
5°	4789.8	4784.2	4784.2	4778.5	4778.5
7.5°	4750.3	4744.7	4739.1	4733.4	4722.2
10°	4694.0	4694.0	4688.4	4660.2	4654.6
12.5°	4603.8	4598.2	4575.7	4536.2	4524.9
15°	4479.9	4479.9	4434.8	4389.7	4372.8
17.5°	4344.6	4339.0	4282.6	4237.6	4215.0
20°	4198.1	4186.8	4130.5	4057.2	4017.8
22.5°	4034.7	4034.7	3967.1	3871.3	3831.8
25°	3882.6	3860.0	3798.0	3662.8	3561.4
27.5°	3707.9	3674.1	3606.4	3414.8	3296.5
30°	3516.3	3499.4	3403.6	3155.6	3065.5
32.5°	3336.0	3307.8	3206.3	2947.1	2873.9
35°	3150.0	3127.5	2975.3	2749.9	2682.3
37.5°	2964.0	2935.9	2744.3	2563.9	2479.4
40°	2778.1	2744.3	2535.8	2372.4	2282.2
42.5°	2603.4	2558.3	2355.5	2180.8	2079.3
45°	2417.4	2366.7	2163.9	1983.5	1904.6
47.5°	2231.5	2186.4	2000.4	1814.5	1724.3
50°	2034.3	1994.8	1825.8	1639.8	1544.0
52.5°	1870.8	1808.9	1645.4	1459.5	1380.6
55°	1679.2	1628.5	1476.4	1301.7	1234.1
57.5°	1504.6	1453.8	1313.0	1149.6	1093.2
60°	1341.1	1267.9	1149.6	1008.7	963.6
62.5°	1160.8	1104.5	1003.0	884.7	941.1
65°	997.4	941.1	850.9	867.8	721.3
67.5°	817.1	788.9	710.0	631.1	608.6
70°	664.9	631.1	603.0	518.4	495.9
72.5°	529.7	495.9	456.4	411.4	394.5
75°	400.1	371.9	349.4	332.5	366.3
77.5°	276.1	264.8	247.9	231.0	225.4
80°	180.3	174.7	169.1	163.4	157.8
82.5°	107.1	107.1	107.1	107.1	107.1
85°	56.4	62.0	67.6	73.3	78.9
87.5°	33.8	33.8	39.4	45.1	50.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)