

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: P563840

Luminaire Tested: FSR-24-4-LD4-4LO-35-UNV-81-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563840
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-LD4-4LO-35-UNV-81-84-EDD-90
Description: 2X4 FSR TROFFER WITH .156 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: 9266.0 lumens
Efficiency: N/A
Efficacy: 99.0 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

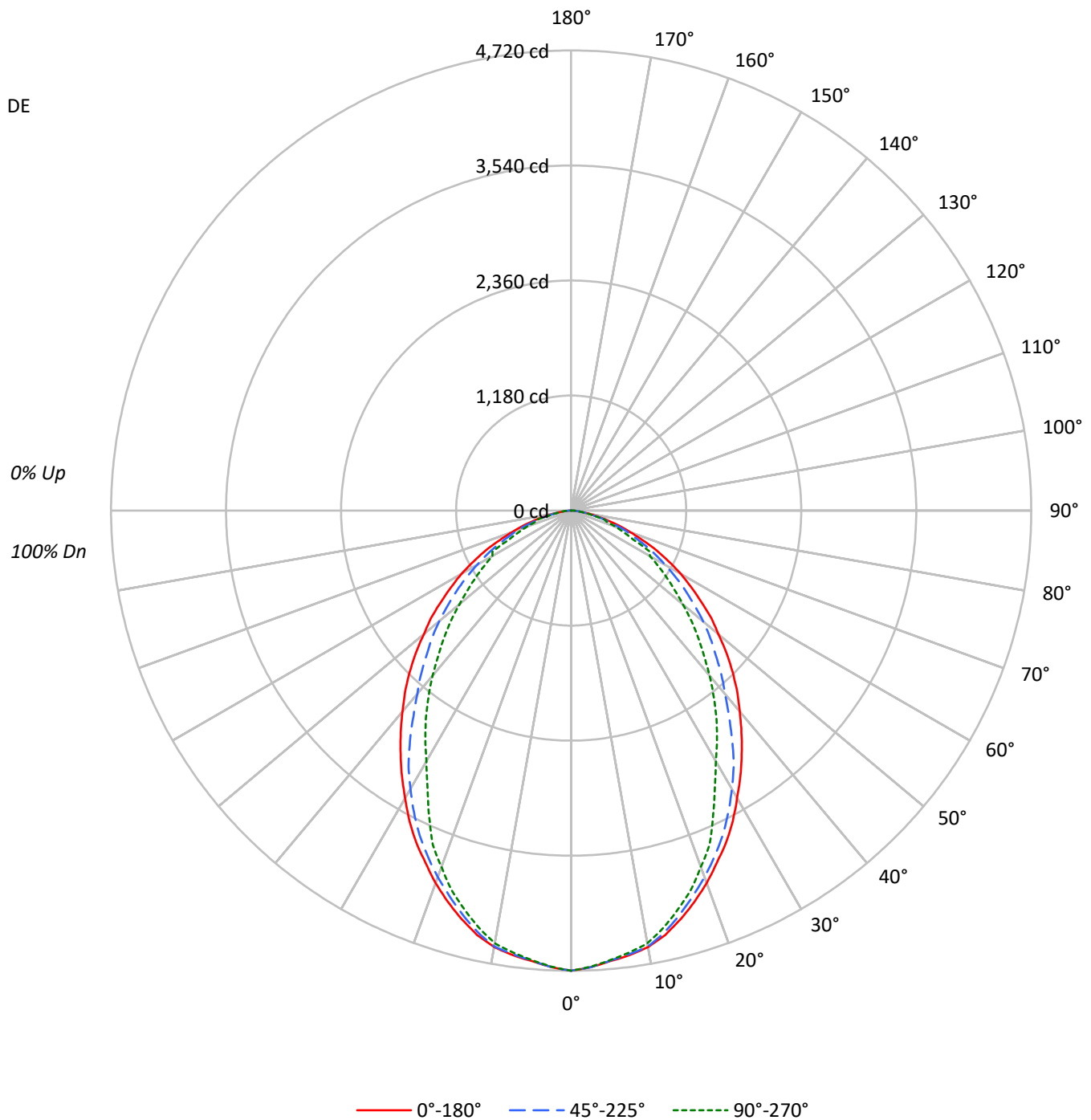
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	6351	6351	6351
5°	6264	6257	6250
10°	6210	6203	6158
15°	6043	5982	5898
20°	5821	5727	5571
25°	5581	5460	5120
30°	5290	5120	4612
35°	5010	4732	4266
40°	4725	4313	3881
45°	4454	3987	3509
50°	4123	3701	3130
55°	3814	3354	2803
60°	3495	2996	2511
65°	3075	2623	2223
70°	2533	2297	1889
75°	2014	1759	1844
80°	1353	1268	1184
85°	843	1011	1179

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4454 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	439.4	4.7
10°-20°	1205.8	13.0
20°-30°	1669.4	18.0
30°-40°	1780.0	19.2
40°-50°	1623.9	17.5
50°-60°	1272.2	13.7
60°-70°	829.1	8.9
70°-80°	367.3	4.0
80°-90°	78.9	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°	3314.5	35.8
0°-40°	5094.5	55.0
0°-60°	7990.6	86.2
0°-90°	9266.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9266.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4720	4720	4720	4720	4720	
5°	4638	4633	4633	4627	4627	440
15°	4338	4338	4294	4251	4234	1220
25°	3760	3738	3678	3547	3449	1726
35°	3050	3028	2881	2663	2597	1907
45°	2341	2292	2095	1921	1844	1803
55°	1626	1577	1430	1260	1195	1458
65°	966	911	824	840	698	952
75°	387	360	338	322	355	415
85°	55	60	66	71	76	76
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4720.0	4720.0	4720.0	4720.0	4720.0
2.5°	4687.2	4687.2	4687.2	4681.8	4681.8
5°	4638.1	4632.7	4632.7	4627.2	4627.2
7.5°	4599.9	4594.5	4589.0	4583.6	4572.6
10°	4545.4	4545.4	4539.9	4512.6	4507.2
12.5°	4458.1	4452.6	4430.8	4392.6	4381.7
15°	4338.0	4338.0	4294.4	4250.7	4234.3
17.5°	4207.1	4201.6	4147.0	4103.4	4081.6
20°	4065.2	4054.3	3999.7	3928.8	3890.6
22.5°	3906.9	3906.9	3841.5	3748.7	3710.5
25°	3759.6	3737.8	3677.8	3546.8	3448.6
27.5°	3590.5	3557.7	3492.2	3306.7	3192.1
30°	3404.9	3388.6	3295.8	3055.7	2968.4
32.5°	3230.3	3203.0	3104.8	2853.8	2782.9
35°	3050.3	3028.4	2881.1	2662.8	2597.4
37.5°	2870.2	2842.9	2657.4	2482.8	2400.9
40°	2690.1	2657.4	2455.5	2297.2	2209.9
42.5°	2521.0	2477.3	2280.9	2111.7	2013.5
45°	2340.9	2291.8	2095.3	1920.7	1844.3
47.5°	2160.8	2117.2	1937.1	1757.0	1669.7
50°	1969.8	1931.6	1767.9	1587.9	1495.1
52.5°	1811.6	1751.6	1593.3	1413.3	1336.9
55°	1626.1	1577.0	1429.6	1260.5	1195.0
57.5°	1456.9	1407.8	1271.4	1113.2	1058.6
60°	1298.7	1227.7	1113.2	976.7	933.1
62.5°	1124.1	1069.5	971.3	856.7	911.3
65°	965.8	911.3	823.9	840.3	698.4
67.5°	791.2	763.9	687.5	611.1	589.3
70°	643.9	611.1	583.9	502.0	480.2
72.5°	512.9	480.2	442.0	398.3	382.0
75°	387.4	360.1	338.3	321.9	354.7
77.5°	267.4	256.5	240.1	223.7	218.3
80°	174.6	169.2	163.7	158.2	152.8
82.5°	103.7	103.7	103.7	103.7	103.7
85°	54.6	60.0	65.5	70.9	76.4
87.5°	32.7	32.7	38.2	43.7	49.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)