

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P310339

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-RDP-CP187-W2A-U-3500K**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: P310339
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-60HE-UNV-L82765-RDP-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (336) 3500K TUNABLE CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment:

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3390.0 lumens
Efficiency: N/A
Efficacy: 70.9 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

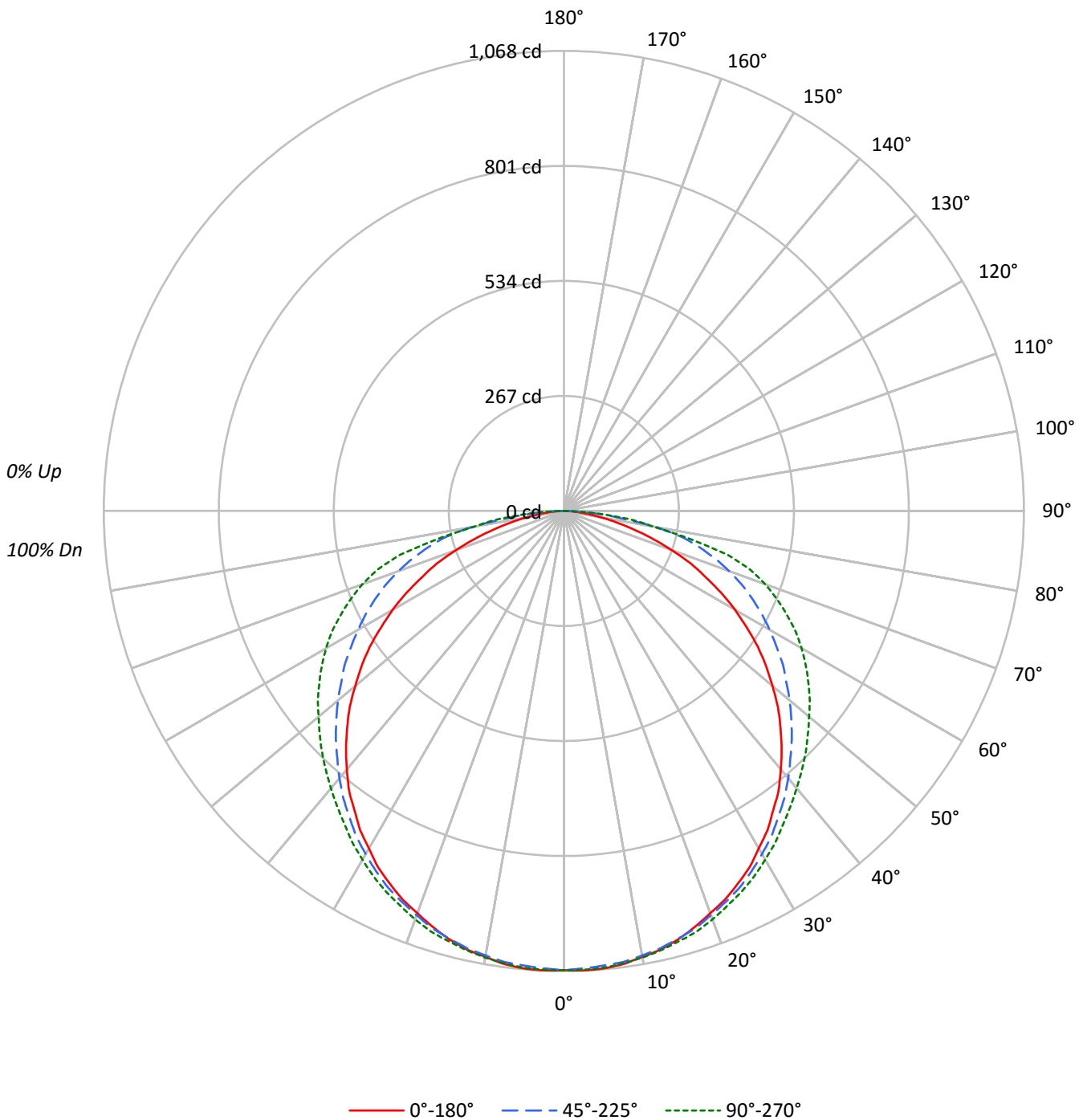
Input Watts (W): 47.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	108	103	98	94	105	100	96	92	96	93	89	92	89	87	88	86	84	82					82			
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67					67			
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56					56			
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47					47			
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40					40			
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35					35			
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31					31			
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27					27			
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24					24			
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22					22			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1434	1434	1434
5°	1440	1431	1438
10°	1436	1431	1438
15°	1433	1431	1440
20°	1423	1430	1445
25°	1418	1433	1448
30°	1405	1429	1452
35°	1392	1425	1458
40°	1376	1424	1477
45°	1353	1424	1510
50°	1323	1433	1556
55°	1290	1456	1625
60°	1235	1484	1715
65°	1156	1536	1820
70°	1052	1607	1958
75°	892	1696	2046
80°	704	1707	1654
85°	519	1298	1454



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.1	3.0
10°-20°	291.0	8.6
20°-30°	445.1	13.1
30°-40°	544.1	16.0
40°-50°	579.9	17.1
50°-60°	554.4	16.4
60°-70°	469.7	13.9
70°-80°	315.7	9.3
80°-90°	89.0	2.6
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°	837.2	24.7
0°-40°	1381.3	40.7
0°-60°	2515.6	74.2
0°-90°	3390.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3390.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1066	1066	1066	1066	1066	
5°	1066	1064	1059	1064	1064	101
15°	1029	1029	1027	1036	1034	290
25°	955	958	965	974	975	440
35°	848	854	868	884	888	531
45°	711	723	748	780	794	549
55°	550	570	620	669	693	490
65°	363	400	483	546	572	361
75°	172	234	326	382	394	184
85°	34	69	84	91	94	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1066.1	1066.1	1066.1	1066.1	1066.1
2.5°	1067.7	1067.7	1062.7	1066.1	1066.1
5°	1066.1	1064.4	1059.3	1064.4	1064.4
7.5°	1061.0	1059.3	1056.0	1061.0	1059.3
10°	1050.9	1050.9	1047.6	1052.6	1052.6
12.5°	1042.5	1040.8	1039.2	1045.9	1044.2
15°	1029.1	1029.1	1027.4	1035.8	1034.1
17.5°	1012.3	1013.9	1015.6	1022.3	1024.0
20°	993.8	997.1	998.8	1008.9	1008.9
22.5°	976.9	978.6	982.0	992.1	992.1
25°	955.1	958.4	965.2	973.6	975.3
27.5°	933.2	934.9	943.3	955.1	956.8
30°	904.6	909.7	919.8	933.2	934.9
32.5°	879.4	884.5	896.2	909.7	913.0
35°	847.5	854.2	867.6	884.5	887.8
37.5°	818.9	823.9	840.7	859.2	864.3
40°	783.6	793.7	810.5	832.3	840.7
42.5°	748.3	758.3	778.5	807.1	817.2
45°	711.3	723.0	748.3	780.2	793.7
47.5°	674.3	687.7	716.3	753.3	768.4
50°	632.2	649.1	684.4	726.4	743.2
52.5°	591.9	612.1	650.7	697.8	719.7
55°	549.8	570.0	620.5	669.2	692.8
57.5°	502.8	529.7	585.2	640.6	665.9
60°	459.0	484.3	551.5	612.1	637.3
62.5°	412.0	445.6	517.9	581.8	607.0
65°	363.2	400.2	482.6	546.5	571.7
67.5°	319.5	359.8	447.3	511.2	536.4
70°	267.4	317.8	408.6	472.5	497.7
72.5°	218.6	274.1	368.2	430.5	454.0
75°	171.5	233.7	326.2	381.7	393.5
77.5°	127.8	193.4	282.5	306.0	297.6
80°	90.8	154.7	220.3	208.5	213.5
82.5°	58.9	117.7	136.2	154.7	159.7
85°	33.6	68.9	84.1	90.8	94.2
87.5°	15.1	25.2	33.6	33.6	31.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)