

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: P310338

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-RDP-CP187-W2A-U-3000K**

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: P310338
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-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (336) 3000K 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: 3277.0 lumens
Efficiency: N/A
Efficacy: 69.3 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

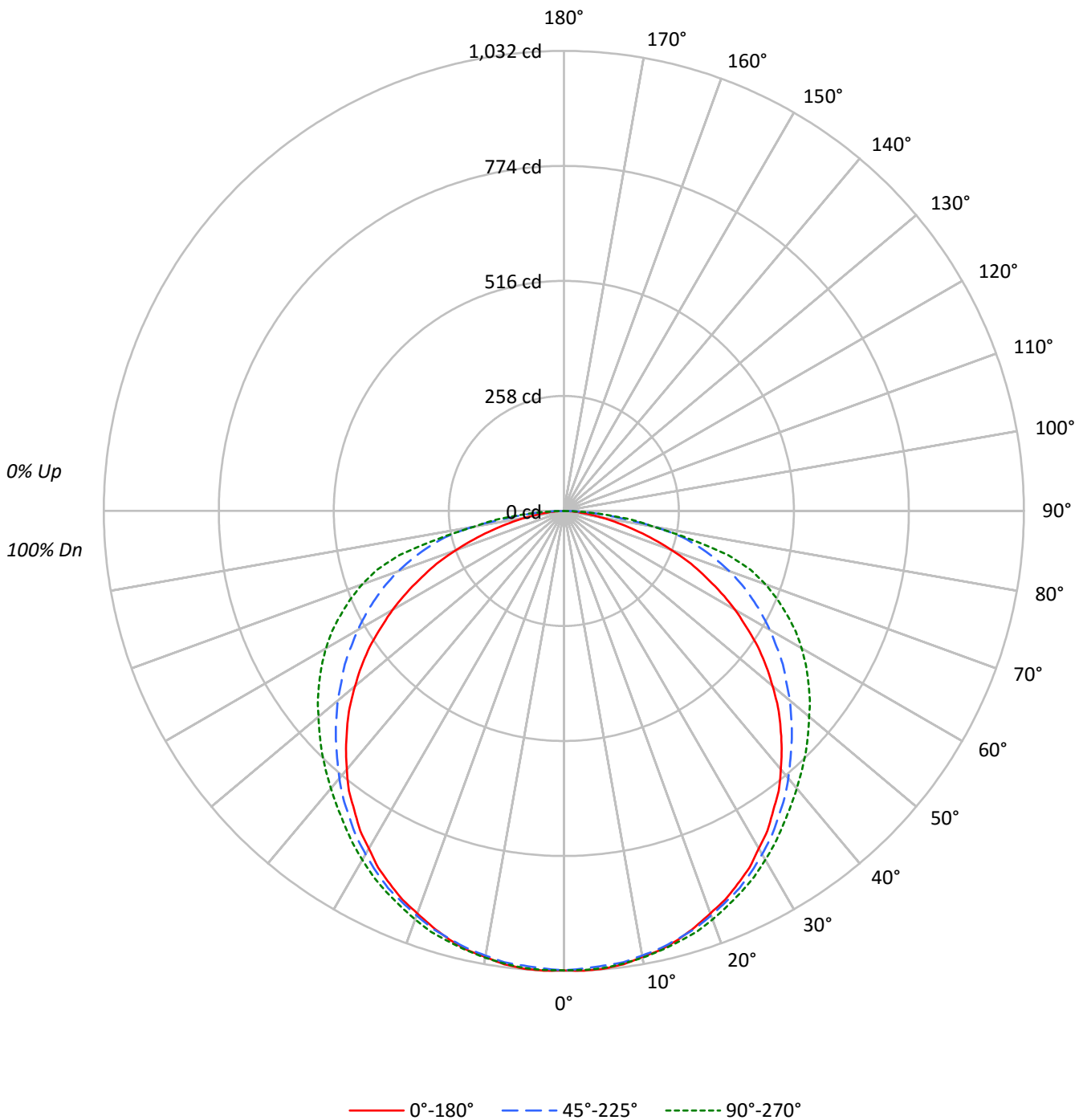
Input Watts (W): 47.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1387	1387	1387
5°	1392	1383	1390
10°	1388	1383	1390
15°	1386	1383	1392
20°	1375	1382	1396
25°	1371	1385	1400
30°	1359	1381	1404
35°	1346	1378	1410
40°	1330	1376	1427
45°	1308	1376	1460
50°	1279	1385	1504
55°	1247	1407	1571
60°	1194	1435	1658
65°	1118	1485	1759
70°	1017	1554	1893
75°	862	1639	1978
80°	680	1650	1599
85°	502	1255	1405



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.8	3.0
10°-20°	281.3	8.6
20°-30°	430.2	13.1
30°-40°	525.9	16.0
40°-50°	560.5	17.1
50°-60°	536.0	16.4
60°-70°	454.0	13.9
70°-80°	305.1	9.3
80°-90°	86.1	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°	809.3	24.7
0°-40°	1335.3	40.7
0°-60°	2431.8	74.2
0°-90°	3277.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3277.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1030	1030	1030	1030	1030	
5°	1030	1029	1024	1029	1029	98
15°	995	995	993	1001	1000	280
25°	923	926	933	941	943	426
35°	819	826	839	855	858	513
45°	688	699	723	754	767	530
55°	532	551	600	647	670	473
65°	351	387	466	528	553	349
75°	166	226	315	369	380	178
85°	32	67	81	88	91	40
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1030.5	1030.5	1030.5	1030.5	1030.5
2.5°	1032.1	1032.1	1027.3	1030.5	1030.5
5°	1030.5	1028.9	1024.0	1028.9	1028.9
7.5°	1025.6	1024.0	1020.8	1025.6	1024.0
10°	1015.9	1015.9	1012.6	1017.5	1017.5
12.5°	1007.8	1006.1	1004.5	1011.0	1009.4
15°	994.8	994.8	993.1	1001.3	999.6
17.5°	978.5	980.1	981.8	988.3	989.9
20°	960.6	963.9	965.5	975.3	975.3
22.5°	944.4	946.0	949.3	959.0	959.0
25°	923.2	926.5	933.0	941.1	942.7
27.5°	902.1	903.7	911.9	923.2	924.9
30°	874.5	879.4	889.1	902.1	903.7
32.5°	850.1	855.0	866.4	879.4	882.6
35°	819.2	825.7	838.7	855.0	858.2
37.5°	791.6	796.5	812.7	830.6	835.5
40°	757.5	767.2	783.5	804.6	812.7
42.5°	723.3	733.1	752.6	780.2	790.0
45°	687.6	698.9	723.3	754.2	767.2
47.5°	651.8	664.8	692.4	728.2	742.8
50°	611.2	627.4	661.6	702.2	718.4
52.5°	572.2	591.7	629.0	674.6	695.7
55°	531.5	551.0	599.8	646.9	669.7
57.5°	486.0	512.0	565.6	619.3	643.7
60°	443.7	468.1	533.1	591.7	616.0
62.5°	398.2	430.7	500.6	562.4	586.8
65°	351.1	386.9	466.5	528.3	552.6
67.5°	308.8	347.8	432.4	494.1	518.5
70°	258.4	307.2	395.0	456.7	481.1
72.5°	211.3	264.9	356.0	416.1	438.9
75°	165.8	225.9	315.3	369.0	380.4
77.5°	123.5	186.9	273.1	295.8	287.7
80°	87.8	149.5	212.9	201.6	206.4
82.5°	56.9	113.8	131.7	149.5	154.4
85°	32.5	66.6	81.3	87.8	91.0
87.5°	14.6	24.4	32.5	32.5	30.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)