

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: P313705

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-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: P313705
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-L83050-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: 3280.0 lumens
Efficiency: N/A
Efficacy: 69.1 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

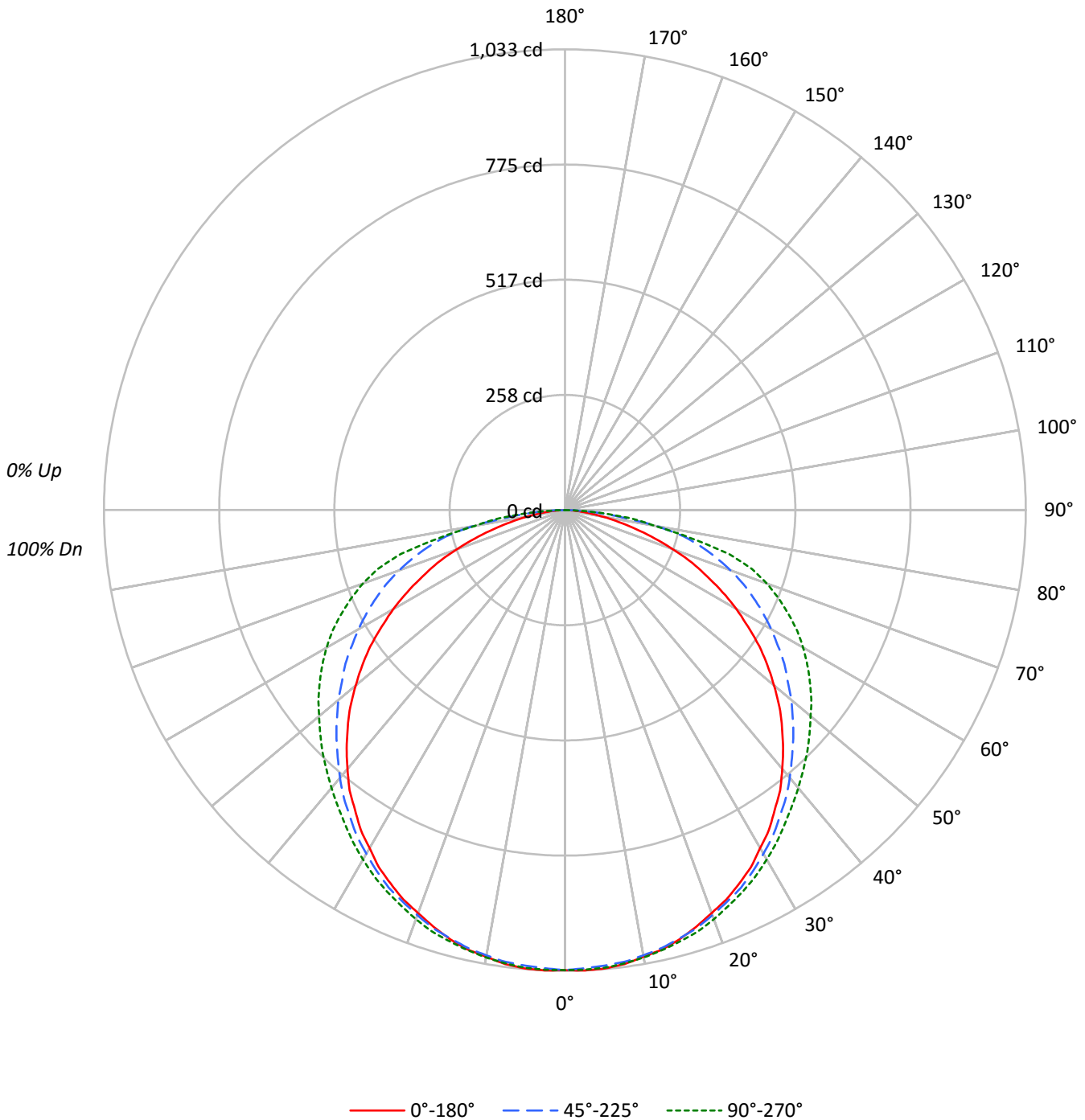
Input Watts (W): 47.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	68	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°	1388	1388	1388
5°	1393	1384	1391
10°	1389	1385	1392
15°	1387	1385	1394
20°	1377	1384	1398
25°	1372	1386	1401
30°	1360	1383	1405
35°	1347	1379	1411
40°	1332	1377	1429
45°	1310	1378	1461
50°	1280	1386	1505
55°	1248	1408	1572
60°	1195	1436	1659
65°	1119	1486	1761
70°	1018	1555	1895
75°	862	1641	1979
80°	681	1651	1601
85°	502	1255	1406



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.8	3.0
10°-20°	281.6	8.6
20°-30°	430.6	13.1
30°-40°	526.4	16.0
40°-50°	561.1	17.1
50°-60°	536.5	16.4
60°-70°	454.4	13.9
70°-80°	305.4	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°	810.1	24.7
0°-40°	1336.5	40.7
0°-60°	2434.0	74.2
0°-90°	3280.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3280.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1032	1032	1032	1032	1032	
5°	1032	1030	1025	1030	1030	98
15°	996	996	994	1002	1001	281
25°	924	927	934	942	944	426
35°	820	826	840	856	859	514
45°	688	700	724	755	768	531
55°	532	552	600	648	670	474
65°	351	387	467	529	553	349
75°	166	226	316	369	381	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°	1031.5	1031.5	1031.5	1031.5	1031.5
2.5°	1033.1	1033.1	1028.2	1031.5	1031.5
5°	1031.5	1029.8	1025.0	1029.8	1029.8
7.5°	1026.6	1025.0	1021.7	1026.6	1025.0
10°	1016.8	1016.8	1013.6	1018.5	1018.5
12.5°	1008.7	1007.1	1005.4	1011.9	1010.3
15°	995.7	995.7	994.0	1002.2	1000.6
17.5°	979.4	981.0	982.7	989.2	990.8
20°	961.5	964.8	966.4	976.2	976.2
22.5°	945.2	946.9	950.1	959.9	959.9
25°	924.1	927.3	933.9	942.0	943.6
27.5°	902.9	904.6	912.7	924.1	925.7
30°	875.3	880.2	889.9	902.9	904.6
32.5°	850.9	855.8	867.1	880.2	883.4
35°	820.0	826.5	839.5	855.8	859.0
37.5°	792.3	797.2	813.5	831.4	836.2
40°	758.1	767.9	784.2	805.3	813.5
42.5°	724.0	733.7	753.3	780.9	790.7
45°	688.2	699.6	724.0	754.9	767.9
47.5°	652.4	665.4	693.1	728.9	743.5
50°	611.7	628.0	662.2	702.8	719.1
52.5°	572.7	592.2	629.6	675.2	696.3
55°	532.0	551.5	600.3	647.5	670.3
57.5°	486.4	512.5	566.2	619.9	644.3
60°	444.1	468.6	533.6	592.2	616.6
62.5°	398.6	431.1	501.1	562.9	587.3
65°	351.4	387.2	466.9	528.7	553.2
67.5°	309.1	348.2	432.8	494.6	519.0
70°	258.7	307.5	395.3	457.2	481.6
72.5°	211.5	265.2	356.3	416.5	439.3
75°	165.9	226.1	315.6	369.3	380.7
77.5°	123.6	187.1	273.3	296.1	288.0
80°	87.9	149.7	213.1	201.7	206.6
82.5°	56.9	113.9	131.8	149.7	154.6
85°	32.5	66.7	81.3	87.9	91.1
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)