

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: P310337

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-RDP-CP187-W2A-U-2700K**

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: P310337
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-2700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (336) 2700K 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: 3185.0 lumens
Efficiency: N/A
Efficacy: 66.9 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

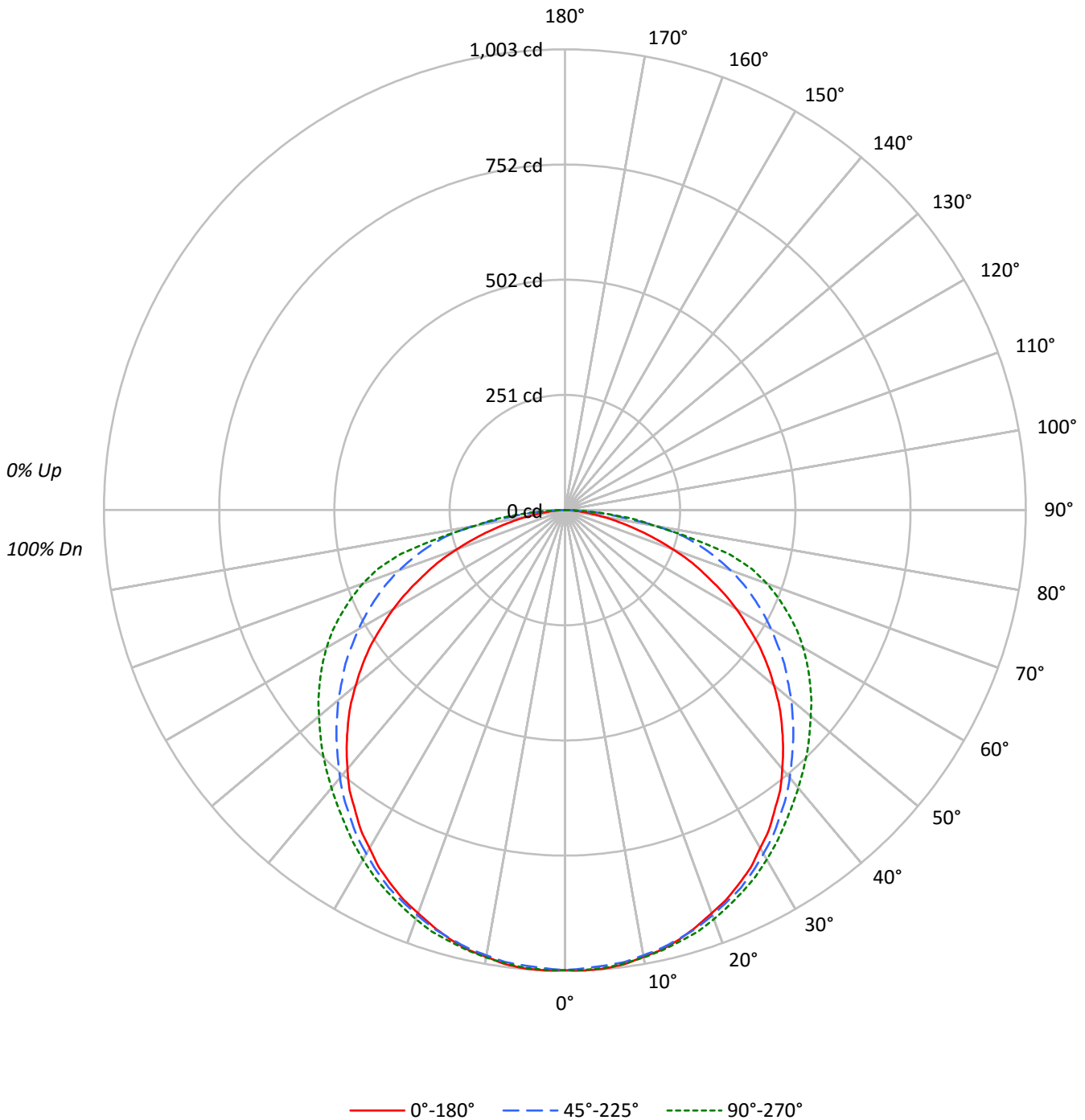
Input Watts (W): 47.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1348	1348	1348
5°	1353	1344	1351
10°	1349	1345	1351
15°	1347	1345	1353
20°	1337	1344	1357
25°	1332	1346	1360
30°	1320	1342	1365
35°	1308	1339	1370
40°	1293	1338	1387
45°	1272	1338	1419
50°	1243	1346	1462
55°	1212	1367	1527
60°	1161	1394	1611
65°	1086	1443	1710
70°	988	1510	1840
75°	837	1593	1922
80°	661	1604	1554
85°	488	1220	1366



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.0	3.0
10°-20°	273.4	8.6
20°-30°	418.1	13.1
30°-40°	511.2	16.0
40°-50°	544.8	17.1
50°-60°	520.9	16.4
60°-70°	441.3	13.9
70°-80°	296.6	9.3
80°-90°	83.7	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°	786.6	24.7
0°-40°	1297.8	40.7
0°-60°	2363.5	74.2
0°-90°	3185.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3185.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1002	1002	1002	1002	1002	
5°	1002	1000	995	1000	1000	95
15°	967	967	965	973	972	273
25°	897	900	907	915	916	414
35°	796	802	815	831	834	499
45°	668	679	703	733	746	515
55°	517	536	583	629	651	460
65°	341	376	453	513	537	339
75°	161	220	306	359	370	173
85°	32	65	79	85	88	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1001.6	1001.6	1001.6	1001.6	1001.6
2.5°	1003.2	1003.2	998.4	1001.6	1001.6
5°	1001.6	1000.0	995.3	1000.0	1000.0
7.5°	996.9	995.3	992.1	996.9	995.3
10°	987.4	987.4	984.2	989.0	989.0
12.5°	979.5	977.9	976.3	982.6	981.1
15°	966.8	966.8	965.3	973.2	971.6
17.5°	951.0	952.6	954.2	960.5	962.1
20°	933.7	936.8	938.4	947.9	947.9
22.5°	917.9	919.4	922.6	932.1	932.1
25°	897.3	900.5	906.8	914.7	916.3
27.5°	876.8	878.4	886.3	897.3	898.9
30°	849.9	854.7	864.1	876.8	878.4
32.5°	826.2	831.0	842.0	854.7	857.8
35°	796.2	802.5	815.2	831.0	834.1
37.5°	769.4	774.1	789.9	807.3	812.0
40°	736.2	745.7	761.5	782.0	789.9
42.5°	703.0	712.5	731.4	758.3	767.8
45°	668.3	679.3	703.0	733.0	745.7
47.5°	633.5	646.1	673.0	707.7	722.0
50°	594.0	609.8	643.0	682.5	698.3
52.5°	556.1	575.0	611.4	655.6	676.2
55°	516.6	535.6	582.9	628.8	650.9
57.5°	472.4	497.6	549.8	601.9	625.6
60°	431.3	455.0	518.2	575.0	598.7
62.5°	387.1	418.6	486.6	546.6	570.3
65°	341.2	376.0	453.4	513.4	537.1
67.5°	300.2	338.1	420.2	480.3	504.0
70°	251.2	298.6	383.9	443.9	467.6
72.5°	205.4	257.5	346.0	404.4	426.5
75°	161.1	219.6	306.5	358.6	369.7
77.5°	120.1	181.7	265.4	287.5	279.6
80°	85.3	145.3	207.0	195.9	200.6
82.5°	55.3	110.6	128.0	145.3	150.1
85°	31.6	64.8	79.0	85.3	88.5
87.5°	14.2	23.7	31.6	31.6	30.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)