

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: P310346

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-RDP-CP250-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: P310346
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-CP250-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.250" 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: 3159.0 lumens
Efficiency: N/A
Efficacy: 66.4 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

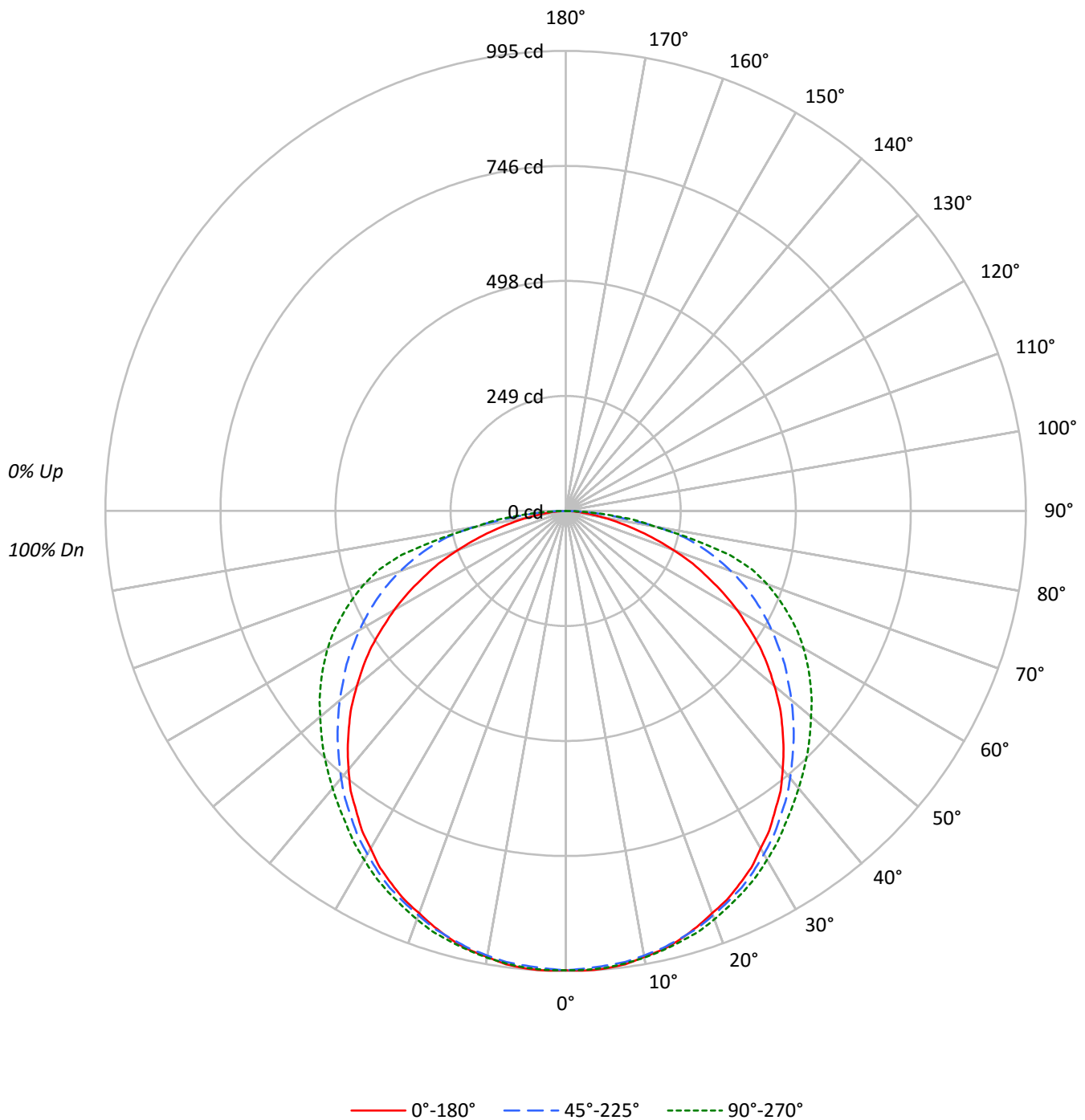
Input Watts (W): 47.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1337	1337	1337
5°	1342	1333	1340
10°	1338	1334	1340
15°	1336	1334	1342
20°	1326	1333	1346
25°	1321	1335	1349
30°	1310	1332	1354
35°	1297	1328	1359
40°	1283	1326	1376
45°	1261	1327	1407
50°	1233	1335	1450
55°	1202	1356	1514
60°	1151	1383	1598
65°	1078	1432	1696
70°	980	1498	1825
75°	831	1580	1906
80°	656	1591	1542
85°	483	1209	1354



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.2	3.0
10°-20°	271.2	8.6
20°-30°	414.7	13.1
30°-40°	507.0	16.0
40°-50°	540.4	17.1
50°-60°	516.7	16.4
60°-70°	437.7	13.9
70°-80°	294.2	9.3
80°-90°	83.0	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°	780.2	24.7
0°-40°	1287.2	40.7
0°-60°	2344.2	74.2
0°-90°	3159.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3159.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	993	993	993	993	993	
5°	993	992	987	992	992	94
15°	959	959	957	965	964	270
25°	890	893	899	907	909	410
35°	790	796	808	824	827	495
45°	663	674	697	727	740	511
55°	512	531	578	624	646	456
65°	338	373	450	509	533	336
75°	160	218	304	356	367	171
85°	31	64	78	85	88	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	993.4	993.4	993.4	993.4	993.4
2.5°	995.0	995.0	990.3	993.4	993.4
5°	993.4	991.8	987.1	991.8	991.8
7.5°	988.7	987.1	984.0	988.7	987.1
10°	979.3	979.3	976.2	980.9	980.9
12.5°	971.5	969.9	968.3	974.6	973.0
15°	958.9	958.9	957.4	965.2	963.6
17.5°	943.3	944.8	946.4	952.7	954.2
20°	926.0	929.2	930.7	940.1	940.1
22.5°	910.4	911.9	915.1	924.5	924.5
25°	890.0	893.1	899.4	907.2	908.8
27.5°	869.6	871.2	879.0	890.0	891.6
30°	843.0	847.7	857.1	869.6	871.2
32.5°	819.5	824.2	835.2	847.7	850.8
35°	789.7	796.0	808.5	824.2	827.3
37.5°	763.1	767.8	783.5	800.7	805.4
40°	730.2	739.6	755.2	775.6	783.5
42.5°	697.3	706.7	725.5	752.1	761.5
45°	662.8	673.8	697.3	727.0	739.6
47.5°	628.3	640.9	667.5	702.0	716.1
50°	589.2	604.8	637.7	676.9	692.6
52.5°	551.5	570.4	606.4	650.3	670.6
55°	512.4	531.2	578.2	623.6	645.6
57.5°	468.5	493.6	545.3	597.0	620.5
60°	427.8	451.3	513.9	570.4	593.9
62.5°	383.9	415.2	482.6	542.1	565.7
65°	338.5	372.9	449.7	509.2	532.7
67.5°	297.7	335.3	416.8	476.3	499.8
70°	249.1	296.1	380.8	440.3	463.8
72.5°	203.7	255.4	343.2	401.1	423.1
75°	159.8	217.8	304.0	355.7	366.7
77.5°	119.1	180.2	263.2	285.2	277.3
80°	84.6	144.2	205.3	194.3	199.0
82.5°	54.8	109.7	126.9	144.2	148.9
85°	31.3	64.2	78.3	84.6	87.7
87.5°	14.1	23.5	31.3	31.3	29.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)