

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: P310612

Luminaire Tested: **24FCZ2-35HE-UNV-L82765-CP187-W2A-U-5000K**

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: P310612
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-35HE-UNV-L82765-CP187-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (336) 5000K 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: 3099.0 lumens
Efficiency: N/A
Efficacy: 116.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

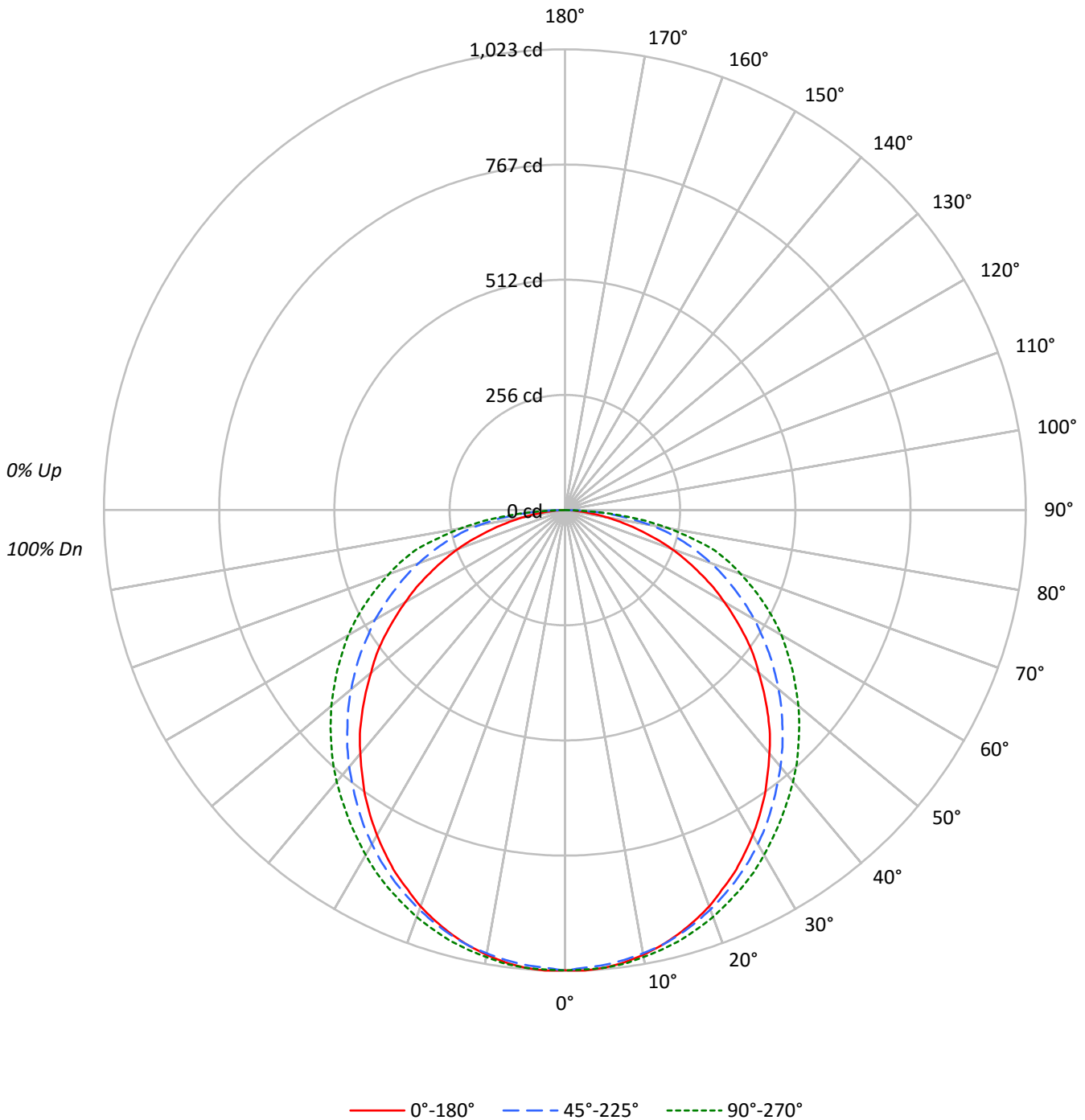
Input Watts (W): 26.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1375	1375	1375
5°	1378	1369	1378
10°	1370	1365	1377
15°	1358	1361	1378
20°	1341	1352	1377
25°	1320	1342	1375
30°	1296	1331	1374
35°	1270	1317	1375
40°	1241	1307	1383
45°	1211	1299	1395
50°	1175	1296	1416
55°	1146	1298	1445
60°	1101	1309	1494
65°	1051	1323	1548
70°	995	1363	1634
75°	887	1422	1785
80°	757	1506	1825
85°	540	1493	1746



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.7	3.1
10°-20°	276.6	8.9
20°-30°	417.7	13.5
30°-40°	503.5	16.2
40°-50°	528.5	17.1
50°-60°	494.5	16.0
60°-70°	408.4	13.2
70°-80°	278.3	9.0
80°-90°	94.9	3.1
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°	791.0	25.5
0°-40°	1294.5	41.8
0°-60°	2317.5	74.8
0°-90°	3099.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3099.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1022	1022	1022	1022	1022	
5°	1020	1019	1014	1020	1020	97
15°	975	976	977	987	989	275
25°	889	894	904	921	926	409
35°	773	781	802	829	837	483
45°	636	650	683	720	733	491
55°	488	508	553	598	616	436
65°	330	358	415	468	486	327
75°	171	210	274	325	343	182
85°	35	69	97	109	113	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1022.0	1022.0	1022.0	1022.0	1022.0
2.5°	1023.1	1022.0	1016.9	1022.0	1021.0
5°	1020.0	1018.9	1013.8	1020.0	1020.0
7.5°	1012.8	1012.8	1007.6	1014.8	1015.9
10°	1002.5	1002.5	999.4	1007.6	1007.6
12.5°	990.1	990.1	990.1	998.4	999.4
15°	974.7	975.8	976.8	987.1	989.1
17.5°	956.2	958.3	961.4	973.7	975.8
20°	936.7	938.7	943.9	958.3	961.4
22.5°	912.0	917.1	924.3	940.8	943.9
25°	889.4	893.5	903.8	921.3	926.4
27.5°	861.6	867.8	881.2	899.7	906.9
30°	833.9	840.0	856.5	878.1	884.2
32.5°	804.0	813.3	830.8	853.4	860.6
35°	773.2	781.4	802.0	828.7	836.9
37.5°	739.3	750.6	773.2	802.0	812.3
40°	706.4	718.7	744.4	775.3	787.6
42.5°	673.5	685.8	714.6	749.6	761.9
45°	636.5	649.8	682.7	719.7	733.1
47.5°	599.4	615.9	651.9	690.9	705.3
50°	561.4	579.9	619.0	660.1	676.6
52.5°	527.5	544.9	586.1	630.3	645.7
55°	488.4	507.9	553.2	598.4	615.9
57.5°	448.3	469.9	518.2	567.6	585.0
60°	409.2	432.9	486.3	535.7	555.2
62.5°	371.2	394.8	450.3	501.8	521.3
65°	330.0	357.8	415.4	467.8	486.3
67.5°	291.0	320.8	381.5	432.9	451.4
70°	252.9	281.7	346.5	396.9	415.4
72.5°	211.8	244.7	309.5	361.9	381.5
75°	170.7	209.8	273.5	324.9	343.4
77.5°	132.6	172.7	236.5	278.6	287.9
80°	97.7	138.8	194.3	224.1	235.5
82.5°	62.7	103.8	148.1	169.7	178.9
85°	35.0	68.9	96.7	109.0	113.1
87.5°	14.4	29.8	39.1	44.2	44.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)