

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: P309231

Luminaire Tested: **24FCZ2-35HE-UNV-L82765-HRP-CA08-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: P309231
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
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-HRP-CA08-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC 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: 2304.0 lumens
Efficiency: N/A
Efficacy: 89.3 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

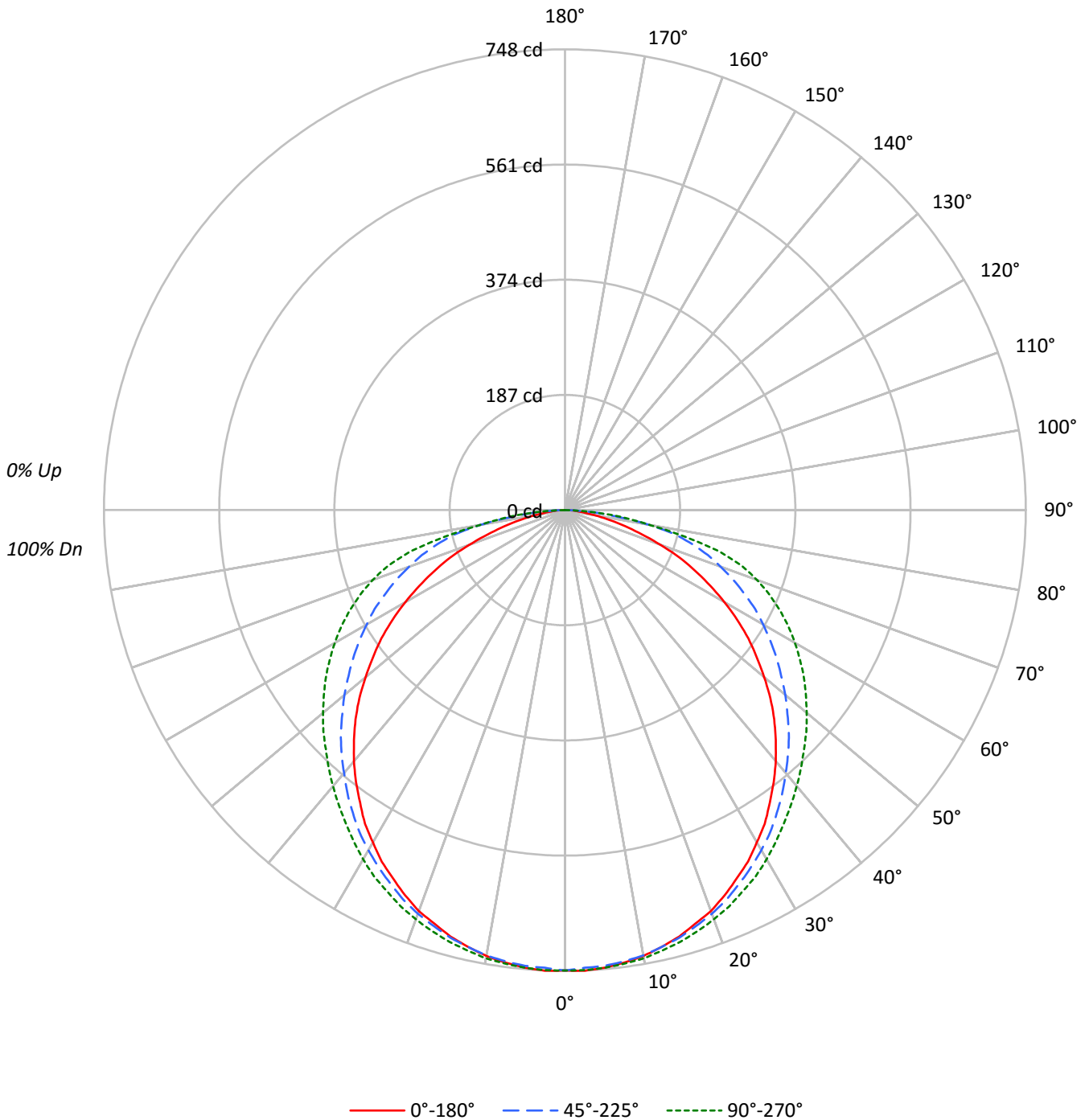
Input Watts (W): 25.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	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	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1006	1006	1006
5°	1007	1003	1007
10°	1004	1003	1010
15°	998	1001	1010
20°	992	999	1012
25°	980	994	1014
30°	968	991	1017
35°	952	986	1019
40°	935	979	1028
45°	914	978	1044
50°	884	977	1072
55°	853	984	1111
60°	805	999	1160
65°	743	1023	1225
70°	649	1059	1305
75°	527	1113	1349
80°	389	1091	1091
85°	298	804	908



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	70.8	3.1
10°-20°	203.4	8.8
20°-30°	309.6	13.4
30°-40°	375.9	16.3
40°-50°	397.1	17.2
50°-60°	374.7	16.3
60°-70°	311.6	13.5
70°-80°	205.0	8.9
80°-90°	55.9	2.4
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°	583.8	25.3
0°-40°	959.7	41.7
0°-60°	1731.6	75.2
0°-90°	2304.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2304.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	748	748	748	748	748	
5°	746	746	743	746	746	71
15°	717	718	719	725	725	202
25°	660	664	669	681	683	304
35°	580	586	600	615	620	363
45°	480	490	514	539	549	370
55°	364	379	420	459	474	324
65°	233	260	321	368	385	231
75°	101	148	214	254	260	109
85°	19	42	52	58	59	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	747.5	747.5	747.5	747.5	747.5
2.5°	748.5	747.5	743.7	747.5	747.5
5°	745.6	745.6	742.7	745.6	745.6
7.5°	740.8	740.8	738.9	742.7	742.7
10°	735.0	735.0	734.0	738.9	738.9
12.5°	726.3	727.3	726.3	732.1	732.1
15°	716.7	717.6	718.6	725.3	725.3
17.5°	704.1	706.1	708.0	715.7	716.7
20°	692.6	693.5	697.4	706.1	707.0
22.5°	677.1	680.0	684.8	693.5	696.4
25°	659.8	663.6	669.4	681.0	682.9
27.5°	643.4	646.3	654.0	666.5	670.4
30°	623.1	627.9	637.6	650.1	654.9
32.5°	603.8	608.6	620.2	633.7	637.6
35°	579.7	586.5	600.0	615.4	620.2
37.5°	556.6	563.3	579.7	597.1	602.9
40°	532.4	540.2	557.5	577.8	585.5
42.5°	506.4	517.0	536.3	558.5	567.2
45°	480.4	490.0	514.1	539.2	548.8
47.5°	452.4	464.0	490.0	519.9	531.5
50°	422.5	436.9	466.8	499.6	512.2
52.5°	392.6	409.0	442.7	479.4	492.9
55°	363.6	379.1	419.6	459.1	473.6
57.5°	331.8	351.1	395.5	437.9	452.4
60°	299.0	320.2	371.4	415.7	431.2
62.5°	266.2	290.3	348.2	392.6	409.0
65°	233.4	260.4	321.2	368.5	384.9
67.5°	201.6	231.5	296.1	343.4	359.8
70°	164.9	202.6	269.1	315.4	331.8
72.5°	131.2	174.6	243.1	286.5	300.9
75°	101.3	147.6	214.1	253.7	259.5
77.5°	74.3	120.6	184.2	197.7	198.7
80°	50.2	96.5	140.8	138.9	140.8
82.5°	32.8	72.3	88.7	99.3	100.3
85°	19.3	42.4	52.1	57.9	58.8
87.5°	9.6	14.5	18.3	19.3	21.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)