

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: P313206

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-HRP-CP187-W2A-U-3500K**

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: P313206
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: 24FCZ2-45HE-UNV-L83050-HRP-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (336) 3500K 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: 2981.0 lumens
Efficiency: N/A
Efficacy: 88.2 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

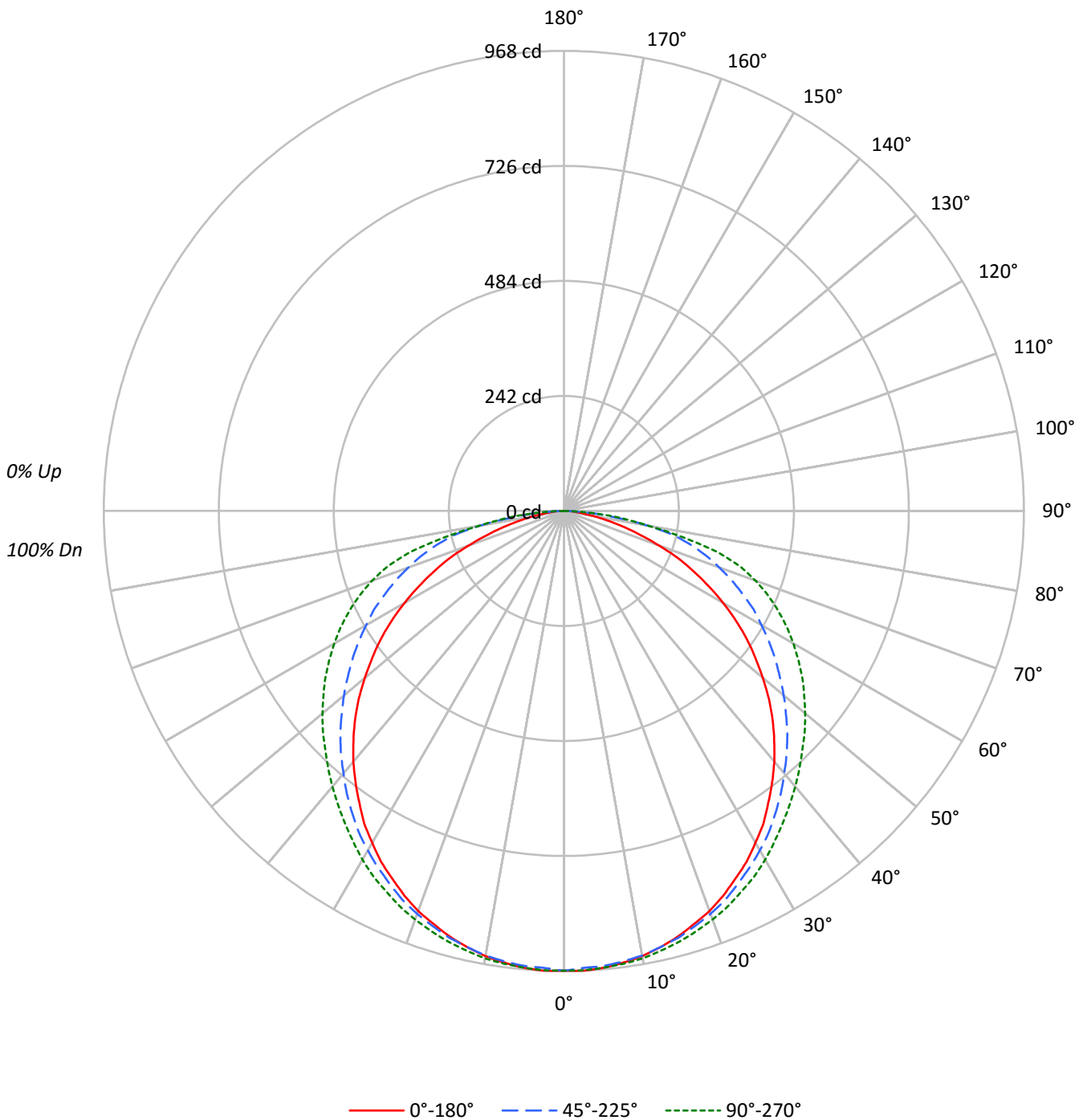
Input Watts (W): 33.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1301	1301	1301
5°	1303	1298	1303
10°	1299	1298	1306
15°	1292	1295	1307
20°	1283	1292	1310
25°	1267	1286	1312
30°	1253	1282	1317
35°	1232	1275	1318
40°	1210	1267	1330
45°	1183	1266	1351
50°	1144	1264	1387
55°	1104	1274	1437
60°	1041	1293	1501
65°	961	1323	1585
70°	840	1370	1689
75°	681	1441	1745
80°	503	1412	1412
85°	386	1041	1175



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	91.6	3.1
10°-20°	263.1	8.8
20°-30°	400.5	13.4
30°-40°	486.4	16.3
40°-50°	513.8	17.2
50°-60°	484.9	16.3
60°-70°	403.1	13.5
70°-80°	265.2	8.9
80°-90°	72.3	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°	755.3	25.3
0°-40°	1241.6	41.7
0°-60°	2240.3	75.2
0°-90°	2981.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2981.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	967	967	967	967	967	
5°	965	965	961	965	965	92
15°	927	928	930	938	938	262
25°	854	859	866	881	884	394
35°	750	759	776	796	802	470
45°	622	634	665	698	710	479
55°	470	490	543	594	613	419
65°	302	337	416	477	498	299
75°	131	191	277	328	336	141
85°	25	55	67	75	76	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	967.2	967.2	967.2	967.2	967.2
2.5°	968.4	967.2	962.2	967.2	967.2
5°	964.7	964.7	960.9	964.7	964.7
7.5°	958.5	958.5	956.0	960.9	960.9
10°	951.0	951.0	949.7	956.0	956.0
12.5°	939.7	941.0	939.7	947.2	947.2
15°	927.3	928.5	929.7	938.5	938.5
17.5°	911.0	913.5	916.0	926.0	927.3
20°	896.1	897.3	902.3	913.5	914.8
22.5°	876.1	879.8	886.1	897.3	901.0
25°	853.6	858.6	866.1	881.1	883.6
27.5°	832.4	836.1	846.1	862.4	867.3
30°	806.2	812.4	824.9	841.1	847.4
32.5°	781.2	787.5	802.5	819.9	824.9
35°	750.0	758.8	776.2	796.2	802.5
37.5°	720.1	728.8	750.0	772.5	780.0
40°	688.9	698.9	721.3	747.5	757.5
42.5°	655.2	668.9	693.9	722.6	733.8
45°	621.5	634.0	665.2	697.6	710.1
47.5°	585.3	600.3	634.0	672.7	687.6
50°	546.6	565.3	604.0	646.5	662.7
52.5°	507.9	529.1	572.8	620.2	637.7
55°	470.5	490.5	542.9	594.0	612.8
57.5°	429.3	454.3	511.7	566.6	585.3
60°	386.9	414.3	480.5	537.9	557.8
62.5°	344.4	375.6	450.5	507.9	529.1
65°	302.0	337.0	415.6	476.7	497.9
67.5°	260.8	299.5	383.1	444.3	465.5
70°	213.4	262.1	348.2	408.1	429.3
72.5°	169.7	225.9	314.5	370.7	389.4
75°	131.0	190.9	277.1	328.2	335.7
77.5°	96.1	156.0	238.4	255.8	257.1
80°	64.9	124.8	182.2	179.7	182.2
82.5°	42.4	93.6	114.8	128.5	129.8
85°	25.0	54.9	67.4	74.9	76.1
87.5°	12.5	18.7	23.7	25.0	27.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)