

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: P313201

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-HRP-CP125-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: P313201
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-CP125-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125" 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: 3112.0 lumens
Efficiency: N/A
Efficacy: 92.1 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

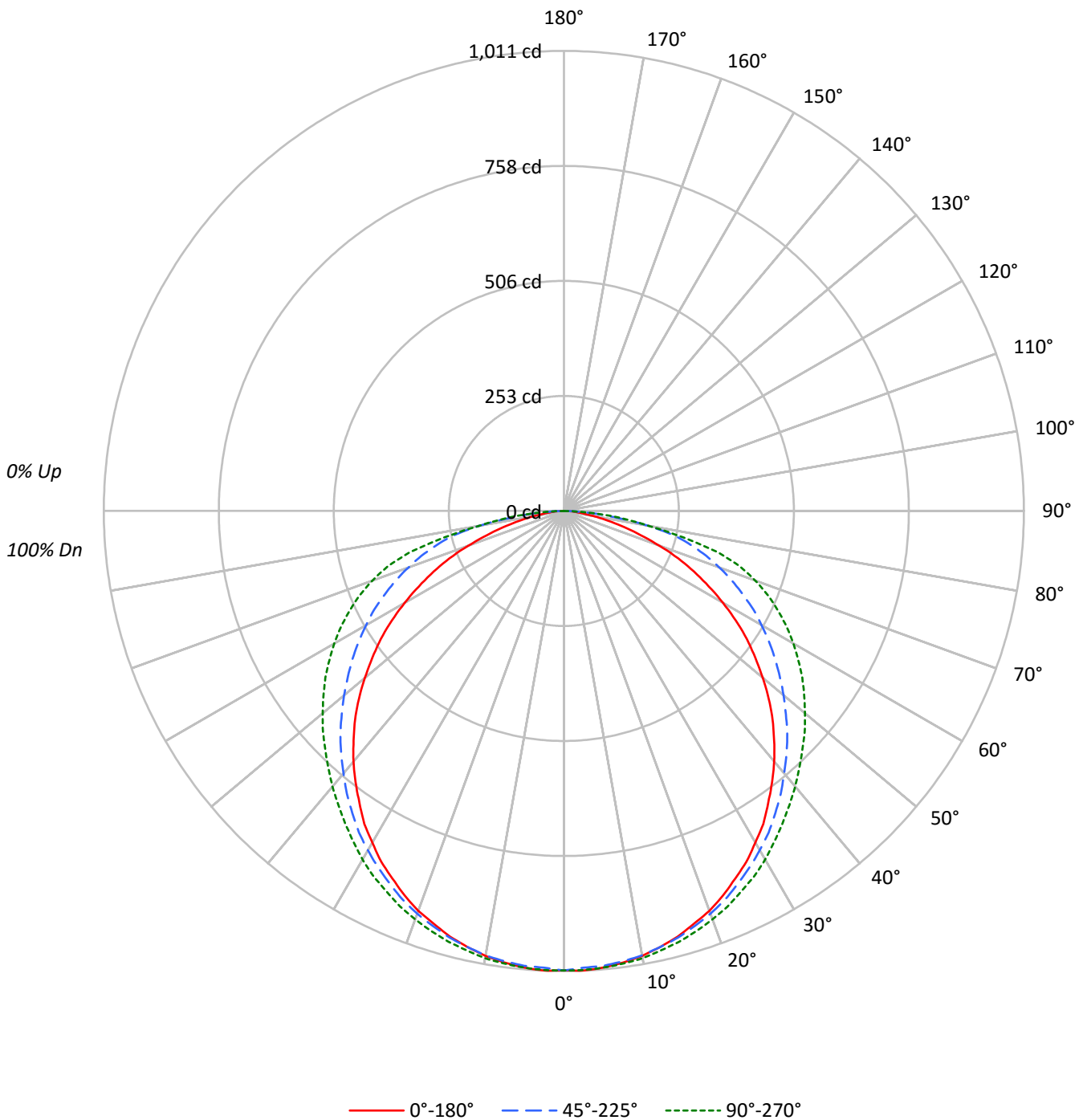
Input Watts (W): 33.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1359	1359	1359
5°	1360	1355	1360
10°	1356	1355	1364
15°	1348	1352	1365
20°	1339	1349	1367
25°	1323	1342	1369
30°	1308	1338	1374
35°	1286	1331	1376
40°	1263	1323	1389
45°	1235	1321	1411
50°	1194	1320	1448
55°	1152	1329	1501
60°	1087	1350	1567
65°	1004	1381	1655
70°	876	1430	1763
75°	711	1503	1822
80°	525	1474	1474
85°	403	1087	1227



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.7	3.1
10°-20°	274.7	8.8
20°-30°	418.1	13.4
30°-40°	507.7	16.3
40°-50°	536.4	17.2
50°-60°	506.2	16.3
60°-70°	420.9	13.5
70°-80°	276.9	8.9
80°-90°	75.5	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°	788.5	25.3
0°-40°	1296.2	41.7
0°-60°	2338.8	75.2
0°-90°	3112.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3112.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1010	1010	1010	1010	1010	
5°	1007	1007	1003	1007	1007	96
15°	968	969	971	980	980	273
25°	891	896	904	920	922	411
35°	783	792	810	831	838	490
45°	649	662	694	728	741	500
55°	491	512	567	620	640	438
65°	315	352	434	498	520	312
75°	137	199	289	343	350	147
85°	26	57	70	78	80	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1009.7	1009.7	1009.7	1009.7	1009.7
2.5°	1011.0	1009.7	1004.5	1009.7	1009.7
5°	1007.1	1007.1	1003.2	1007.1	1007.1
7.5°	1000.6	1000.6	998.0	1003.2	1003.2
10°	992.8	992.8	991.5	998.0	998.0
12.5°	981.0	982.3	981.0	988.8	988.8
15°	968.0	969.3	970.6	979.7	979.7
17.5°	951.1	953.7	956.3	966.7	968.0
20°	935.4	936.7	941.9	953.7	955.0
22.5°	914.6	918.5	925.0	936.7	940.6
25°	891.1	896.3	904.2	919.8	922.4
27.5°	869.0	872.9	883.3	900.3	905.5
30°	841.6	848.1	861.2	878.1	884.6
32.5°	815.6	822.1	837.7	856.0	861.2
35°	783.0	792.1	810.4	831.2	837.7
37.5°	751.7	760.9	783.0	806.4	814.3
40°	719.2	729.6	753.0	780.4	790.8
42.5°	684.0	698.3	724.4	754.3	766.1
45°	648.8	661.8	694.4	728.3	741.3
47.5°	611.0	626.7	661.8	702.2	717.9
50°	570.6	590.2	630.6	674.9	691.8
52.5°	530.3	552.4	598.0	647.5	665.7
55°	491.2	512.0	566.7	620.1	639.7
57.5°	448.2	474.2	534.2	591.5	611.0
60°	403.9	432.5	501.6	561.5	582.4
62.5°	359.6	392.2	470.3	530.3	552.4
65°	315.3	351.8	433.8	497.7	519.8
67.5°	272.3	312.7	400.0	463.8	486.0
70°	222.8	273.6	363.5	426.0	448.2
72.5°	177.2	235.8	328.3	386.9	406.5
75°	136.8	199.3	289.2	342.6	350.5
77.5°	100.3	162.9	248.8	267.1	268.4
80°	67.7	130.3	190.2	187.6	190.2
82.5°	44.3	97.7	119.9	134.2	135.5
85°	26.1	57.3	70.4	78.2	79.5
87.5°	13.0	19.5	24.8	26.1	28.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)