

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: P313764

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-RDP-CP250-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: P313764
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: 24FCZ2-70HE-UNV-L83050-RDP-CP250-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.250" 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: 4265.0 lumens
Efficiency: N/A
Efficacy: 70.5 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

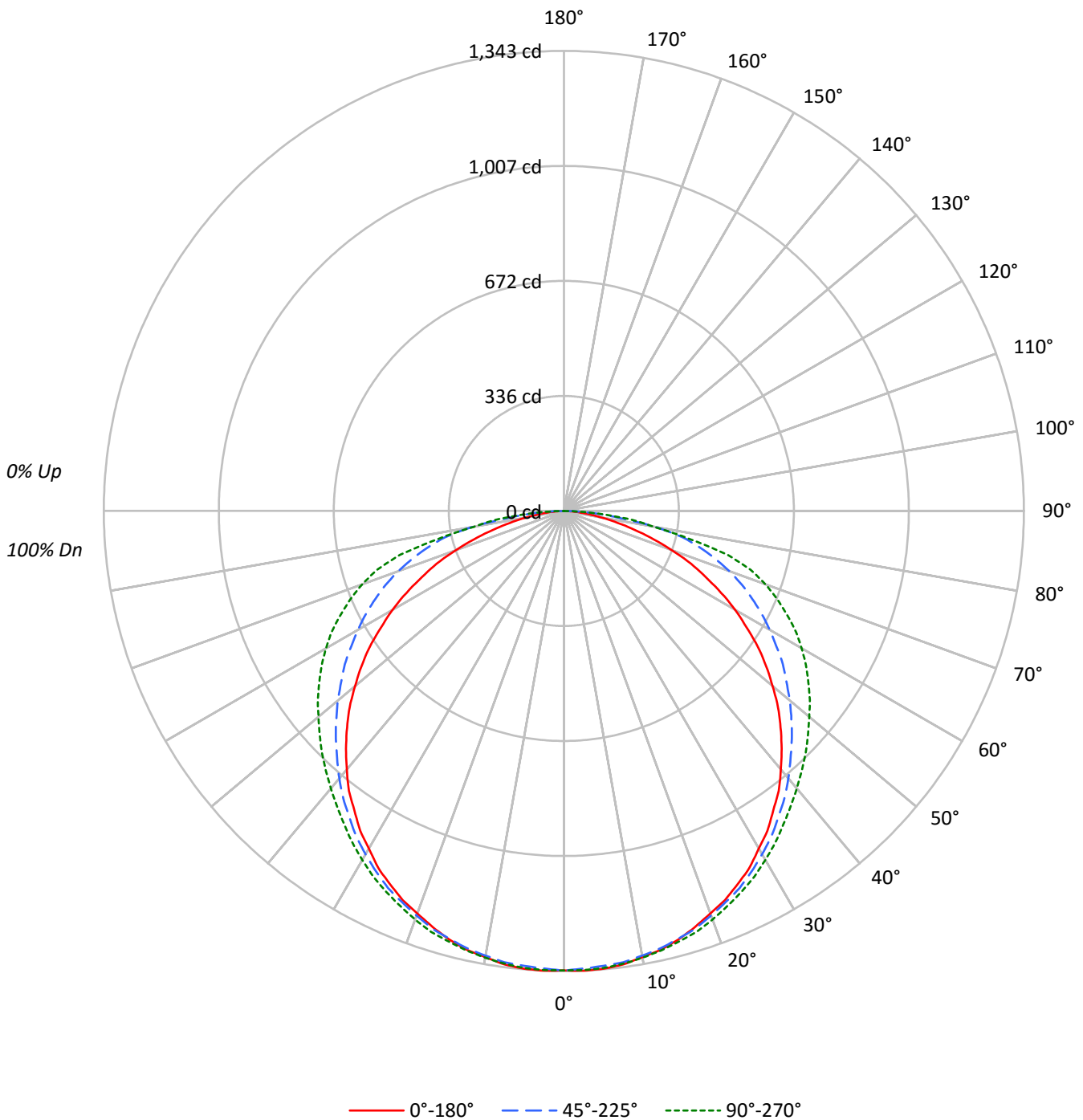
Input Watts (W): 60.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1805	1805	1805
5°	1811	1800	1809
10°	1806	1801	1809
15°	1803	1801	1812
20°	1790	1799	1817
25°	1784	1803	1822
30°	1768	1798	1827
35°	1751	1793	1835
40°	1731	1791	1858
45°	1703	1791	1900
50°	1665	1802	1957
55°	1623	1831	2045
60°	1554	1867	2158
65°	1455	1933	2290
70°	1323	2022	2463
75°	1122	2133	2573
80°	885	2147	2082
85°	653	1633	1829



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	127.2	3.0
10°-20°	366.2	8.6
20°-30°	559.9	13.1
30°-40°	684.5	16.0
40°-50°	729.6	17.1
50°-60°	697.5	16.4
60°-70°	590.9	13.9
70°-80°	397.1	9.3
80°-90°	112.0	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°	1053.3	24.7
0°-40°	1737.8	40.7
0°-60°	3164.9	74.2
0°-90°	4265.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4265.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1341	1341	1341	1341	1341	
5°	1341	1339	1333	1339	1339	127
15°	1295	1295	1293	1303	1301	365
25°	1202	1206	1214	1225	1227	554
35°	1066	1075	1092	1113	1117	668
45°	895	910	941	982	998	690
55°	692	717	781	842	872	616
65°	457	504	607	688	719	454
75°	216	294	410	480	495	231
85°	42	87	106	114	118	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1341.2	1341.2	1341.2	1341.2	1341.2
2.5°	1343.3	1343.3	1337.0	1341.2	1341.2
5°	1341.2	1339.1	1332.8	1339.1	1339.1
7.5°	1334.9	1332.8	1328.5	1334.9	1332.8
10°	1322.2	1322.2	1318.0	1324.3	1324.3
12.5°	1311.6	1309.5	1307.4	1315.8	1313.7
15°	1294.7	1294.7	1292.6	1303.1	1301.0
17.5°	1273.5	1275.6	1277.8	1286.2	1288.3
20°	1250.3	1254.5	1256.6	1269.3	1269.3
22.5°	1229.1	1231.2	1235.4	1248.1	1248.1
25°	1201.6	1205.8	1214.3	1224.9	1227.0
27.5°	1174.1	1176.2	1186.8	1201.6	1203.7
30°	1138.1	1144.5	1157.2	1174.1	1176.2
32.5°	1106.4	1112.7	1127.6	1144.5	1148.7
35°	1066.2	1074.7	1091.6	1112.7	1117.0
37.5°	1030.2	1036.6	1057.7	1081.0	1087.4
40°	985.8	998.5	1019.7	1047.2	1057.7
42.5°	941.4	954.1	979.5	1015.4	1028.1
45°	894.9	909.7	941.4	981.6	998.5
47.5°	848.3	865.2	901.2	947.7	966.8
50°	795.4	816.6	861.0	913.9	935.0
52.5°	744.7	770.0	818.7	877.9	905.4
55°	691.8	717.2	780.6	842.0	871.6
57.5°	632.5	666.4	736.2	806.0	837.7
60°	577.5	609.3	693.9	770.0	801.8
62.5°	518.3	560.6	651.6	732.0	763.7
65°	456.9	503.5	607.1	687.5	719.3
67.5°	401.9	452.7	562.7	643.1	674.8
70°	336.4	399.8	514.1	594.5	626.2
72.5°	275.0	344.8	463.3	541.6	571.2
75°	215.8	294.1	410.4	480.2	495.0
77.5°	160.8	243.3	355.4	385.0	374.4
80°	114.2	194.6	277.1	262.3	268.7
82.5°	74.0	148.1	171.4	194.6	201.0
85°	42.3	86.7	105.8	114.2	118.5
87.5°	19.0	31.7	42.3	42.3	40.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)