

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: P311792

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-S-CP250-W2A-U-5500K**

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: P311792
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
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-L82765-S-CP250-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (336) 5500K 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: 6537.0 lumens
Efficiency: N/A
Efficacy: 110.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

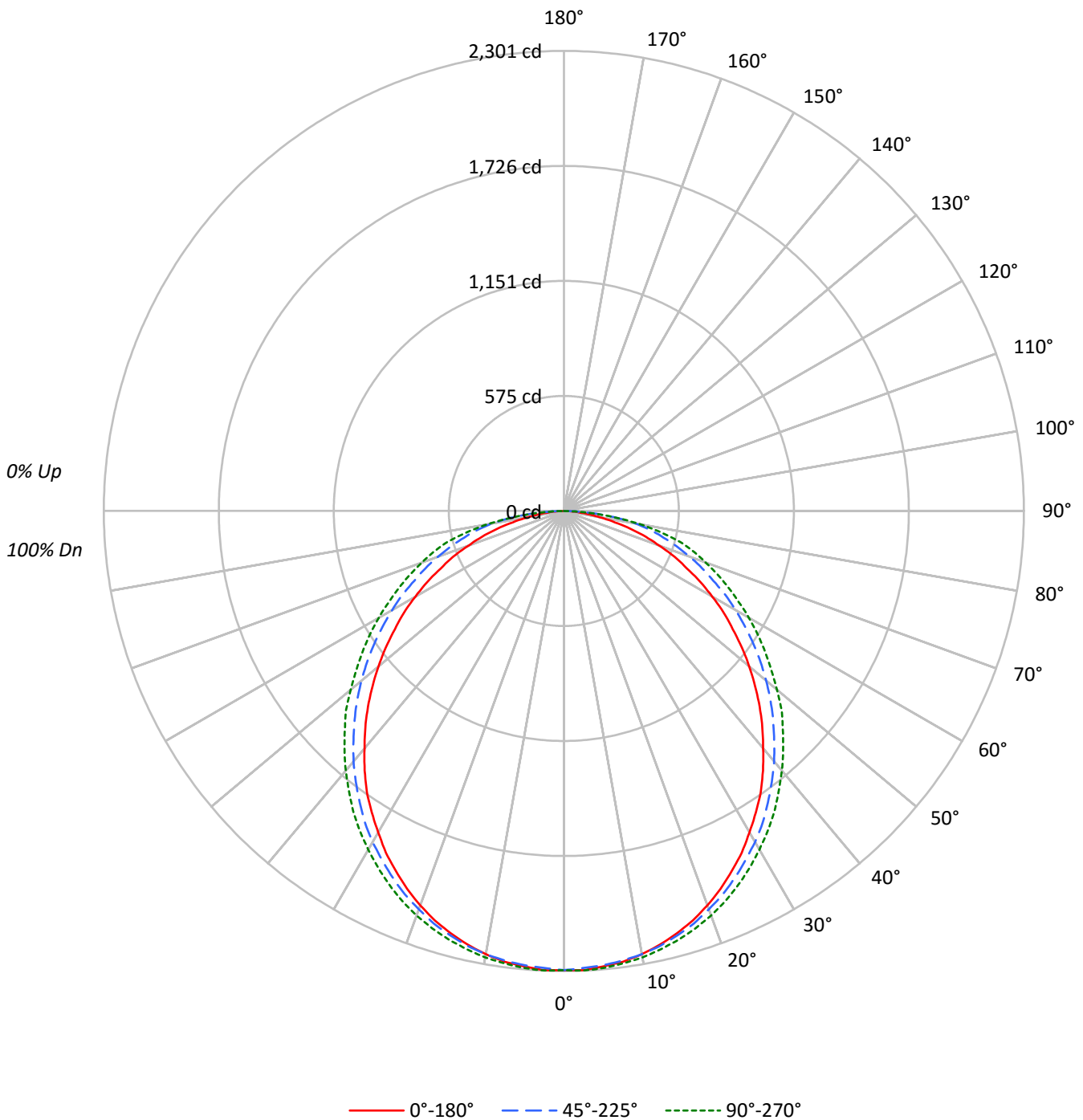
Input Watts (W): 59.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3090	3090	3090
5°	3088	3079	3099
10°	3075	3075	3098
15°	3046	3060	3092
20°	3006	3036	3083
25°	2950	3006	3064
30°	2884	2971	3039
35°	2821	2923	3015
40°	2724	2874	2980
45°	2635	2817	2947
50°	2534	2764	2912
55°	2421	2713	2883
60°	2308	2671	2877
65°	2162	2624	2896
70°	2001	2638	2973
75°	1792	2688	3141
80°	1448	2848	3073
85°	1090	2501	2436



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	217.4	3.3
10°-20°	621.2	9.5
20°-30°	933.8	14.3
30°-40°	1112.3	17.0
40°-50°	1138.4	17.4
50°-60°	1024.9	15.7
60°-70°	804.9	12.3
70°-80°	522.4	8.0
80°-90°	161.6	2.5
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°	1772.5	27.1
0°-40°	2884.8	44.1
0°-60°	5048.2	77.2
0°-90°	6537.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6537.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2296	2296	2296	2296	2296	
5°	2286	2290	2280	2292	2294	217
15°	2186	2193	2197	2216	2220	616
25°	1987	2004	2024	2058	2064	915
35°	1717	1738	1780	1823	1836	1071
45°	1385	1418	1480	1536	1549	1068
55°	1032	1078	1157	1217	1229	925
65°	679	731	824	893	910	676
75°	345	411	517	588	604	365
85°	71	131	162	158	158	85
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2296.5	2296.5	2296.5	2296.5	2296.5
2.5°	2298.6	2298.6	2288.2	2298.6	2300.6
5°	2286.1	2290.3	2279.9	2292.3	2294.4
7.5°	2273.7	2273.7	2267.4	2279.9	2282.0
10°	2250.8	2252.9	2250.8	2265.3	2267.4
12.5°	2221.7	2225.9	2228.0	2242.5	2244.6
15°	2186.4	2192.7	2196.8	2215.5	2219.7
17.5°	2147.0	2153.2	2163.6	2184.4	2188.5
20°	2099.2	2107.5	2120.0	2147.0	2153.2
22.5°	2047.3	2055.6	2076.4	2101.3	2111.7
25°	1987.1	2003.7	2024.5	2057.7	2063.9
27.5°	1926.9	1941.4	1968.4	2003.7	2012.0
30°	1856.3	1879.1	1912.4	1947.7	1956.0
32.5°	1787.8	1810.6	1850.1	1887.4	1897.8
35°	1717.2	1737.9	1779.5	1823.1	1835.5
37.5°	1636.2	1663.2	1708.9	1752.5	1764.9
40°	1551.1	1584.3	1636.2	1681.9	1696.4
42.5°	1470.1	1505.4	1557.3	1607.1	1623.7
45°	1385.0	1418.2	1480.5	1536.5	1549.0
47.5°	1297.7	1335.1	1401.6	1457.6	1478.4
50°	1210.5	1250.0	1320.6	1378.7	1391.2
52.5°	1123.3	1164.9	1239.6	1301.9	1308.1
55°	1032.0	1077.6	1156.6	1216.8	1229.2
57.5°	948.9	988.4	1073.5	1135.8	1150.3
60°	857.6	901.2	992.5	1050.7	1069.3
62.5°	770.3	816.0	911.5	969.7	986.3
65°	679.0	730.9	824.3	892.8	909.5
67.5°	600.1	649.9	749.6	816.0	832.6
70°	508.7	564.8	670.7	739.2	755.8
72.5°	429.8	488.0	593.8	660.3	685.2
75°	344.7	411.1	517.0	587.6	604.2
77.5°	261.6	338.5	446.4	500.4	500.4
80°	186.9	267.9	367.5	392.4	396.6
82.5°	122.5	201.4	272.0	269.9	269.9
85°	70.6	130.8	162.0	157.8	157.8
87.5°	27.0	54.0	58.1	58.1	56.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)