

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: P310440

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-RDP-CP250-W2A-U-4500K**

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: P310440
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-L82765-RDP-CP250-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.250" POLYCARB SHEET
Light Source: (336) 4500K 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: 4088.0 lumens
Efficiency: N/A
Efficacy: 69.5 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

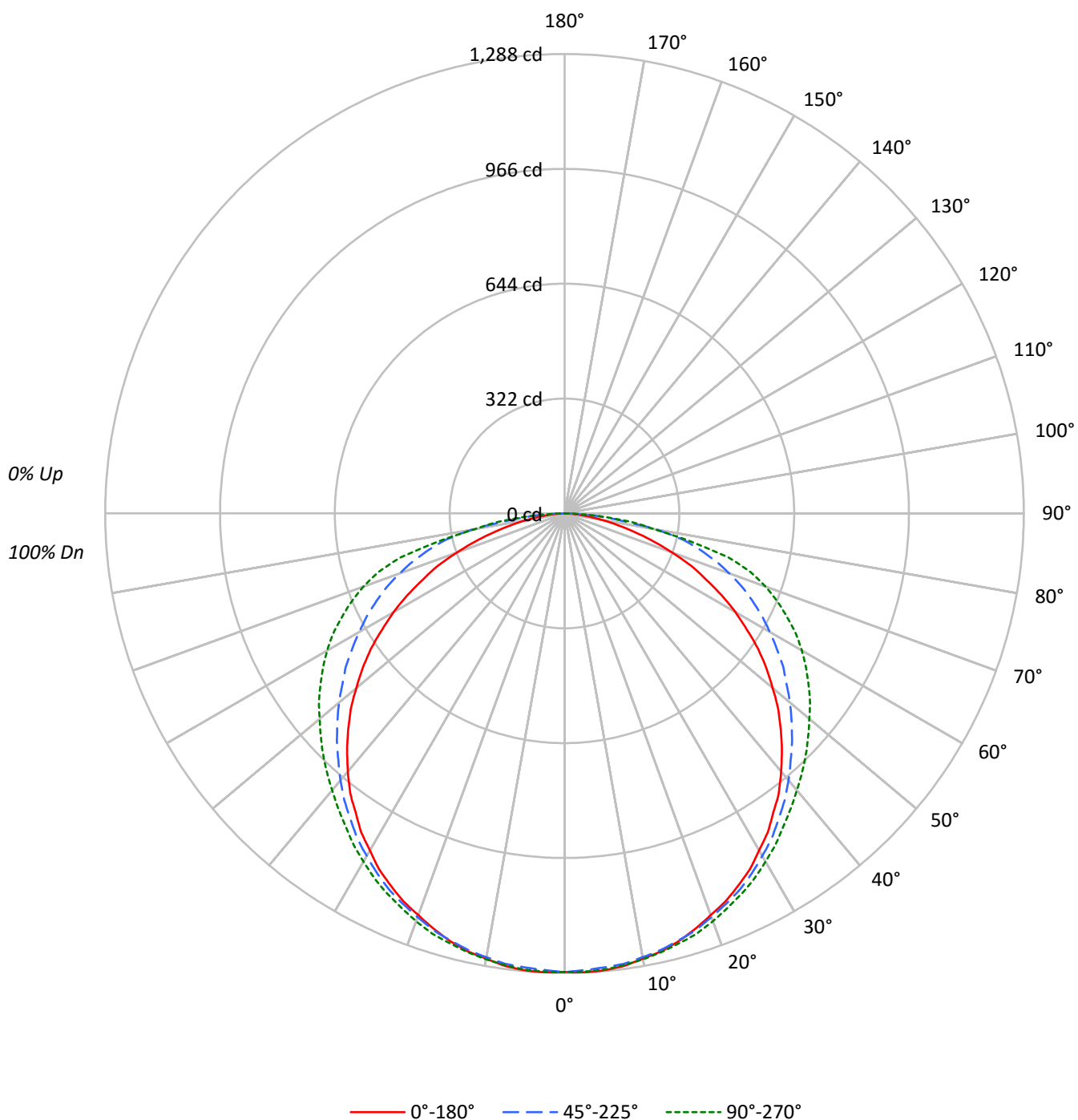
Input Watts (W): 58.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
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°	1730	1730	1730
5°	1736	1725	1734
10°	1731	1726	1734
15°	1729	1726	1737
20°	1716	1725	1742
25°	1710	1728	1746
30°	1695	1723	1752
35°	1679	1719	1759
40°	1660	1717	1781
45°	1632	1717	1821
50°	1596	1728	1876
55°	1555	1755	1960
60°	1490	1790	2068
65°	1394	1853	2195
70°	1268	1938	2361
75°	1075	2045	2467
80°	848	2058	1995
85°	627	1565	1754



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.9	3.0
10°-20°	351.0	8.6
20°-30°	536.7	13.1
30°-40°	656.1	16.0
40°-50°	699.3	17.1
50°-60°	668.6	16.4
60°-70°	566.4	13.9
70°-80°	380.7	9.3
80°-90°	107.4	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°	1009.6	24.7
0°-40°	1665.7	40.7
0°-60°	3033.6	74.2
0°-90°	4088.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4088.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1286	1286	1286	1286	1286	
5°	1286	1284	1277	1284	1284	122
15°	1241	1241	1239	1249	1247	350
25°	1152	1156	1164	1174	1176	531
35°	1022	1030	1046	1067	1071	640
45°	858	872	902	941	957	662
55°	663	687	748	807	835	591
65°	438	483	582	659	689	435
75°	207	282	393	460	474	221
85°	41	83	101	110	114	50
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1285.6	1285.6	1285.6	1285.6	1285.6
2.5°	1287.6	1287.6	1281.5	1285.6	1285.6
5°	1285.6	1283.5	1277.4	1283.5	1283.5
7.5°	1279.5	1277.4	1273.4	1279.5	1277.4
10°	1267.3	1267.3	1263.3	1269.3	1269.3
12.5°	1257.2	1255.1	1253.1	1261.2	1259.2
15°	1240.9	1240.9	1238.9	1249.1	1247.0
17.5°	1220.7	1222.7	1224.7	1232.8	1234.9
20°	1198.4	1202.4	1204.5	1216.6	1216.6
22.5°	1178.1	1180.1	1184.2	1196.3	1196.3
25°	1151.7	1155.8	1163.9	1174.0	1176.1
27.5°	1125.4	1127.4	1137.5	1151.7	1153.8
30°	1090.9	1097.0	1109.1	1125.4	1127.4
32.5°	1060.5	1066.6	1080.8	1097.0	1101.0
35°	1022.0	1030.1	1046.3	1066.6	1070.6
37.5°	987.5	993.6	1013.8	1036.2	1042.2
40°	944.9	957.1	977.3	1003.7	1013.8
42.5°	902.3	914.5	938.8	973.3	985.5
45°	857.7	871.9	902.3	940.9	957.1
47.5°	813.1	829.3	863.8	908.4	926.7
50°	762.4	782.7	825.3	876.0	896.2
52.5°	713.7	738.1	784.7	841.5	867.9
55°	663.1	687.4	748.2	807.0	835.4
57.5°	606.3	638.7	705.6	772.6	803.0
60°	553.6	584.0	665.1	738.1	768.5
62.5°	496.8	537.3	624.5	701.6	732.0
65°	438.0	482.6	581.9	659.0	689.4
67.5°	385.3	433.9	539.4	616.4	646.8
70°	322.4	383.2	492.7	569.8	600.2
72.5°	263.6	330.5	444.1	519.1	547.5
75°	206.8	281.8	393.4	460.3	474.5
77.5°	154.1	233.2	340.7	369.0	358.9
80°	109.5	186.5	265.6	251.4	257.5
82.5°	71.0	141.9	164.2	186.5	192.6
85°	40.6	83.1	101.4	109.5	113.6
87.5°	18.2	30.4	40.6	40.6	38.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)