

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: P310422

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-RDP-CP125-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: P310422
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-CP125-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.125" 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: 4303.0 lumens
Efficiency: N/A
Efficacy: 73.2 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

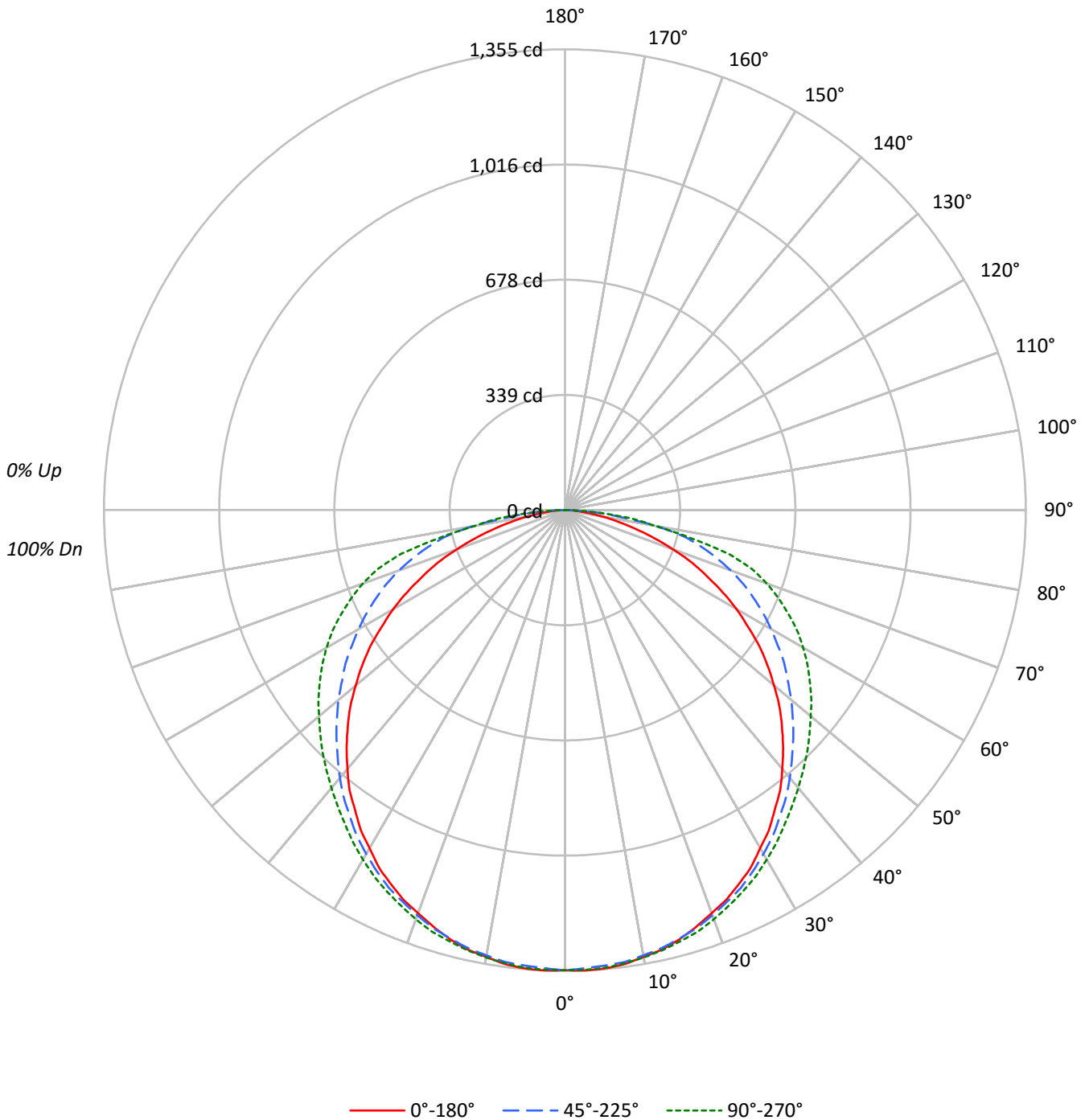
Input Watts (W): 58.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P310422

CATALOG NUMBER: 24FCZ2-70HE-UNV-L82765-RDP-CP125-W2A-U-4500K

Luminous Intensity Polar Plot





TEST NUMBER: P310422

CATALOG NUMBER: 24FCZ2-70HE-UNV-L82765-RDP-CP125-W2A-U-4500K

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°	1821	1821	1821
5°	1828	1816	1825
10°	1823	1817	1825
15°	1819	1817	1828
20°	1806	1815	1834
25°	1800	1819	1838
30°	1784	1814	1844
35°	1767	1809	1851
40°	1747	1807	1874
45°	1718	1807	1917
50°	1680	1818	1975
55°	1637	1848	2063
60°	1568	1884	2177
65°	1468	1950	2310
70°	1335	2040	2485
75°	1132	2153	2596
80°	893	2166	2101
85°	659	1647	1845



TEST NUMBER: P310422

CATALOG NUMBER: 24FCZ2-70HE-UNV-L82765-RDP-CP125-W2A-U-4500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.4	3.0
10°-20°	369.4	8.6
20°-30°	564.9	13.1
30°-40°	690.6	16.0
40°-50°	736.1	17.1
50°-60°	703.8	16.4
60°-70°	596.2	13.9
70°-80°	400.7	9.3
80°-90°	113.0	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°	1062.7	24.7
0°-40°	1753.3	40.7
0°-60°	3193.1	74.2
0°-90°	4303.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4303.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1353	1353	1353	1353	1353	
5°	1353	1351	1345	1351	1351	129
15°	1306	1306	1304	1315	1313	368
25°	1212	1217	1225	1236	1238	559
35°	1076	1084	1101	1123	1127	674
45°	903	918	950	990	1007	696
55°	698	724	788	850	879	622
65°	461	508	613	694	726	458
75°	218	297	414	484	499	233
85°	43	88	107	115	120	53
90°	0	0	0	0	0	



TEST NUMBER: P310422

CATALOG NUMBER: 24FCZ2-70HE-UNV-L82765-RDP-CP125-W2A-U-4500K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1353.2	1353.2	1353.2	1353.2	1353.2
2.5°	1355.3	1355.3	1348.9	1353.2	1353.2
5°	1353.2	1351.0	1344.6	1351.0	1351.0
7.5°	1346.8	1344.6	1340.4	1346.8	1344.6
10°	1334.0	1334.0	1329.7	1336.1	1336.1
12.5°	1323.3	1321.2	1319.0	1327.6	1325.4
15°	1306.2	1306.2	1304.1	1314.8	1312.6
17.5°	1284.9	1287.0	1289.1	1297.7	1299.8
20°	1261.4	1265.7	1267.8	1280.6	1280.6
22.5°	1240.1	1242.2	1246.5	1259.3	1259.3
25°	1212.3	1216.6	1225.1	1235.8	1237.9
27.5°	1184.6	1186.7	1197.4	1212.3	1214.4
30°	1148.3	1154.7	1167.5	1184.6	1186.7
32.5°	1116.3	1122.7	1137.6	1154.7	1158.9
35°	1075.7	1084.2	1101.3	1122.7	1126.9
37.5°	1039.4	1045.8	1067.2	1090.6	1097.0
40°	994.6	1007.4	1028.8	1056.5	1067.2
42.5°	949.8	962.6	988.2	1024.5	1037.3
45°	902.8	917.8	949.8	990.3	1007.4
47.5°	855.9	872.9	909.2	956.2	975.4
50°	802.5	823.9	868.7	922.0	943.4
52.5°	751.3	776.9	826.0	885.8	913.5
55°	697.9	723.5	787.6	849.5	879.3
57.5°	638.2	672.3	742.7	813.2	845.2
60°	582.7	614.7	700.1	776.9	808.9
62.5°	522.9	565.6	657.4	738.5	770.5
65°	461.0	508.0	612.6	693.7	725.7
67.5°	405.5	456.7	567.7	648.8	680.9
70°	339.4	403.4	518.6	599.7	631.8
72.5°	277.5	347.9	467.4	546.4	576.3
75°	217.7	296.7	414.1	484.5	499.4
77.5°	162.2	245.4	358.6	388.4	377.8
80°	115.3	196.4	279.6	264.7	271.1
82.5°	74.7	149.4	172.9	196.4	202.8
85°	42.7	87.5	106.7	115.3	119.5
87.5°	19.2	32.0	42.7	42.7	40.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)