

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: P309710

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-HRP-CP187-W2A-U-4000K**

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: P309710
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: 24FCZ2-65HE-UNV-L82765-HRP-CP187-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (336) 4000K 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: 4234.0 lumens
Efficiency: N/A
Efficacy: 79.6 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

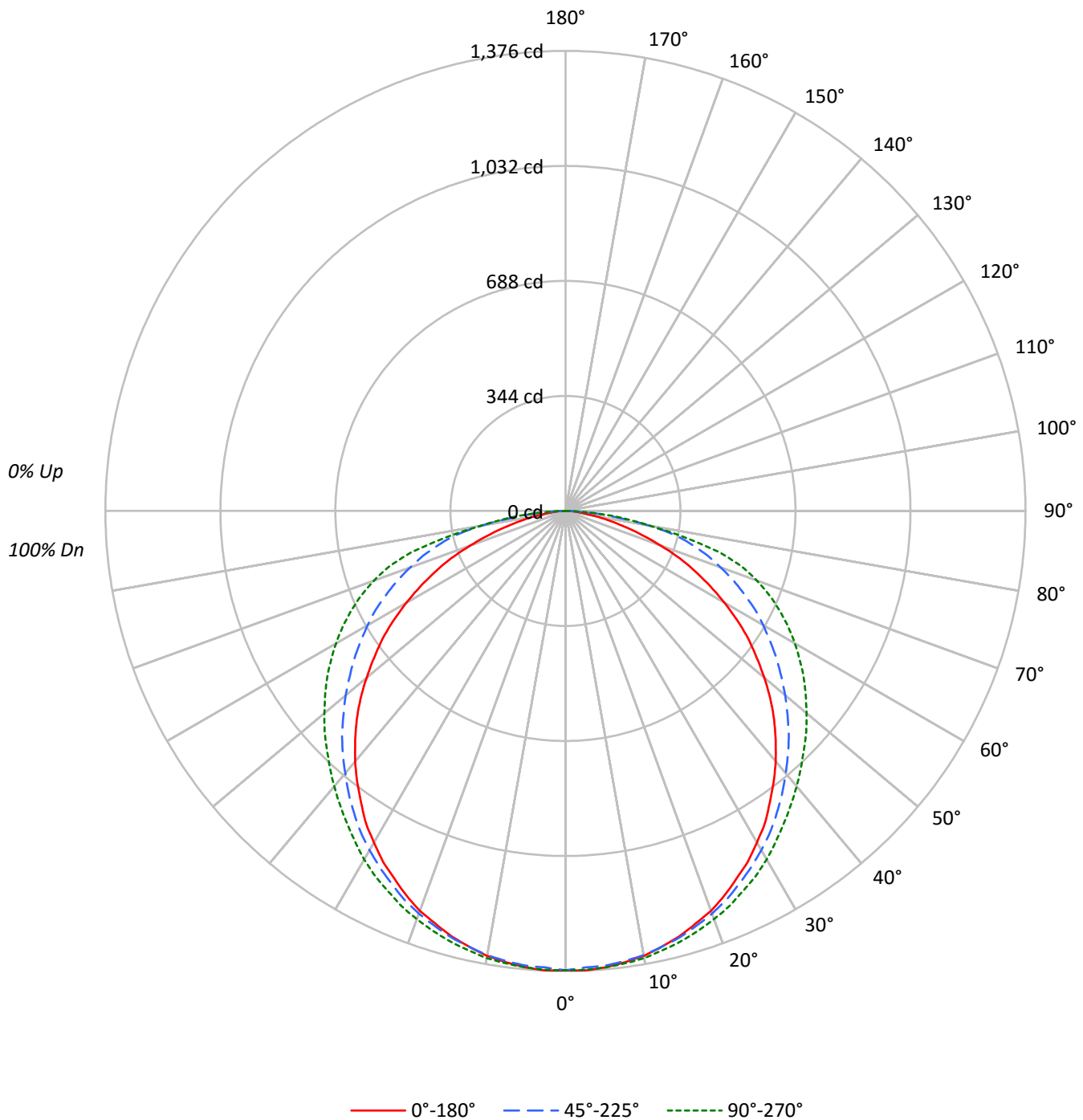
Input Watts (W): 53.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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		0
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		100
1	108	103	98	94	105	101	96	93	96	93	90		92	90	87		82
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		67
3	89	78	69	62	86	76	68	62	73	66	61		70	64	59		56
4	81	68	59	52	79	67	59	52	65	57	51		62	56	50		48
5	74	61	52	45	72	60	51	45	58	50	44		56	49	44		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	63	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	36	30	57	44	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	24		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1848	1848	1848
5°	1851	1843	1851
10°	1845	1843	1855
15°	1835	1839	1857
20°	1822	1835	1860
25°	1800	1826	1863
30°	1779	1820	1870
35°	1750	1811	1872
40°	1718	1799	1890
45°	1680	1798	1919
50°	1625	1796	1970
55°	1568	1809	2042
60°	1479	1836	2132
65°	1366	1879	2252
70°	1192	1945	2399
75°	967	2046	2479
80°	714	2005	2005
85°	548	1477	1669



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	130.1	3.1
10°-20°	373.7	8.8
20°-30°	568.9	13.4
30°-40°	690.8	16.3
40°-50°	729.8	17.2
50°-60°	688.7	16.3
60°-70°	572.6	13.5
70°-80°	376.7	8.9
80°-90°	102.7	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°	1072.7	25.3
0°-40°	1763.5	41.7
0°-60°	3182.0	75.2
0°-90°	4234.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4234.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1374	1374	1374	1374	1374	
5°	1370	1370	1365	1370	1370	130
15°	1317	1319	1320	1333	1333	371
25°	1212	1220	1230	1251	1255	559
35°	1065	1078	1102	1131	1140	667
45°	883	900	945	991	1009	680
55°	668	697	771	844	870	595
65°	429	479	590	677	707	424
75°	186	271	394	466	477	201
85°	36	78	96	106	108	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1373.7	1373.7	1373.7	1373.7	1373.7
2.5°	1375.5	1373.7	1366.6	1373.7	1373.7
5°	1370.2	1370.2	1364.9	1370.2	1370.2
7.5°	1361.3	1361.3	1357.8	1364.9	1364.9
10°	1350.7	1350.7	1348.9	1357.8	1357.8
12.5°	1334.7	1336.5	1334.7	1345.4	1345.4
15°	1317.0	1318.8	1320.5	1333.0	1333.0
17.5°	1294.0	1297.5	1301.1	1315.2	1317.0
20°	1272.7	1274.5	1281.6	1297.5	1299.3
22.5°	1244.3	1249.6	1258.5	1274.5	1279.8
25°	1212.4	1219.5	1230.1	1251.4	1255.0
27.5°	1182.3	1187.6	1201.8	1224.8	1231.9
30°	1145.1	1153.9	1171.7	1194.7	1203.6
32.5°	1109.6	1118.5	1139.7	1164.6	1171.7
35°	1065.3	1077.7	1102.5	1130.9	1139.7
37.5°	1022.8	1035.2	1065.3	1097.2	1107.8
40°	978.4	992.6	1024.5	1061.8	1075.9
42.5°	930.6	950.1	985.5	1026.3	1042.3
45°	882.7	900.5	944.8	990.9	1008.6
47.5°	831.3	852.6	900.5	955.4	976.7
50°	776.4	803.0	857.9	918.2	941.2
52.5°	721.4	751.6	813.6	881.0	905.8
55°	668.3	696.6	771.1	843.7	870.3
57.5°	609.8	645.2	726.7	804.7	831.3
60°	549.5	588.5	682.4	764.0	792.3
62.5°	489.2	533.5	639.9	721.4	751.6
65°	429.0	478.6	590.3	677.1	707.2
67.5°	370.5	425.4	544.2	631.0	661.2
70°	303.1	372.2	494.5	579.6	609.8
72.5°	241.1	320.8	446.7	526.4	553.0
75°	186.1	271.2	393.5	466.2	476.8
77.5°	136.5	221.6	338.6	363.4	365.1
80°	92.2	177.3	258.8	255.2	258.8
82.5°	60.3	132.9	163.1	182.6	184.3
85°	35.5	78.0	95.7	106.4	108.1
87.5°	17.7	26.6	33.7	35.5	39.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)