

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: P314480

Luminaire Tested: **24FCZ2-65HE-UNV-L83050-S-CP187-W2A-U-3000K**

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: P314480
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: 24FCZ2-65HE-UNV-L83050-S-CP187-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 3000K 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

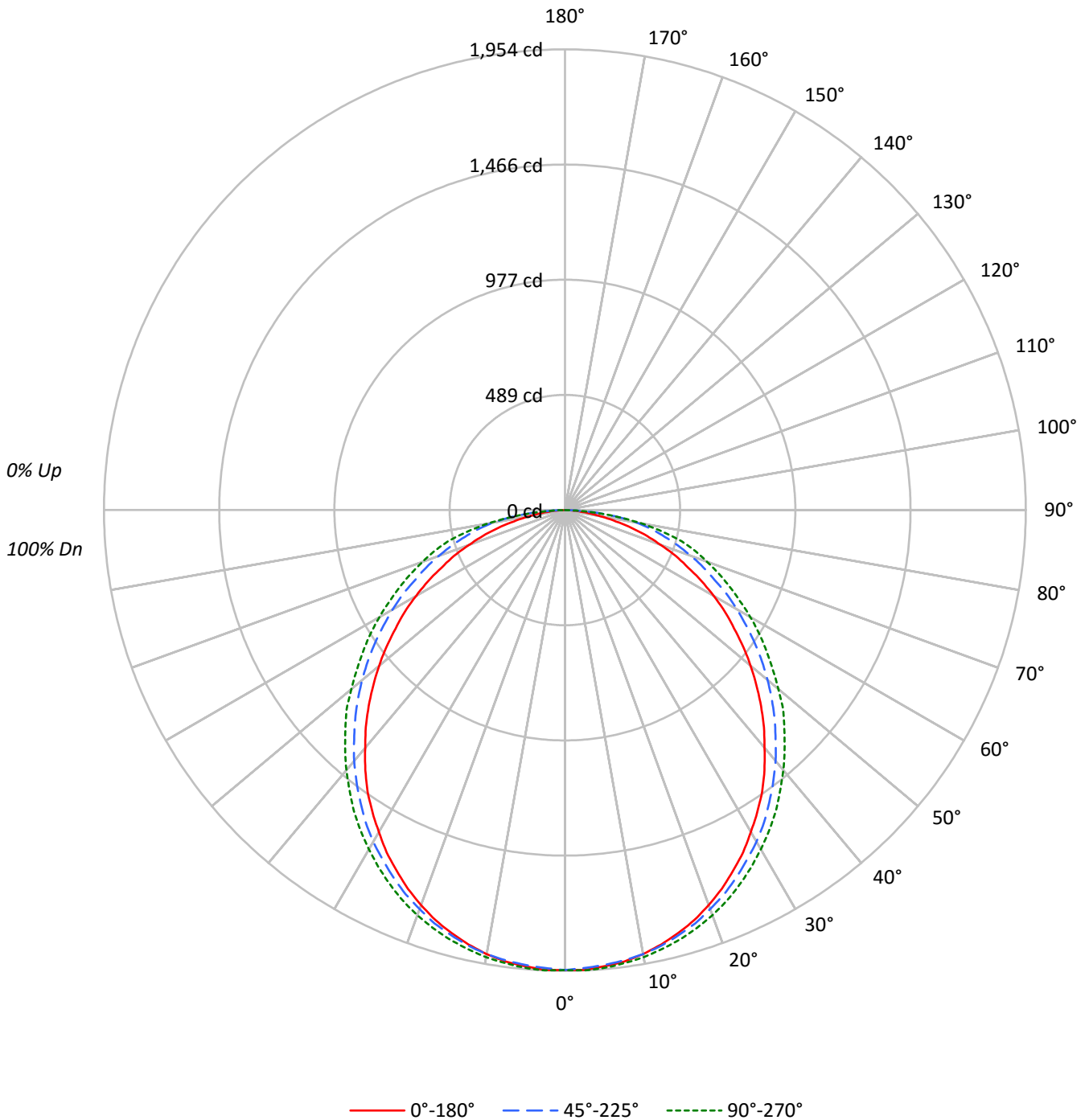
Lumens per Lamp: N/A
Luminaire Lumens: 5552.0 lumens
Efficiency: N/A
Efficacy: 105.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 52.5
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	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°	2624	2624	2624
5°	2622	2615	2632
10°	2612	2612	2631
15°	2587	2599	2626
20°	2553	2578	2619
25°	2506	2553	2602
30°	2449	2523	2581
35°	2395	2482	2561
40°	2314	2441	2531
45°	2238	2393	2503
50°	2152	2348	2473
55°	2056	2304	2449
60°	1960	2268	2444
65°	1836	2229	2459
70°	1700	2241	2525
75°	1522	2283	2668
80°	1230	2418	2610
85°	926	2124	2069



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	184.7	3.3
10°-20°	527.6	9.5
20°-30°	793.1	14.3
30°-40°	944.7	17.0
40°-50°	966.9	17.4
50°-60°	870.5	15.7
60°-70°	683.6	12.3
70°-80°	443.7	8.0
80°-90°	137.2	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°	1505.4	27.1
0°-40°	2450.1	44.1
0°-60°	4287.5	77.2
0°-90°	5552.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5552.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1950	1950	1950	1950	1950	
5°	1942	1945	1936	1947	1949	184
15°	1857	1862	1866	1882	1885	524
25°	1688	1702	1719	1748	1753	777
35°	1458	1476	1511	1548	1559	910
45°	1176	1204	1257	1305	1316	907
55°	876	915	982	1033	1044	786
65°	577	621	700	758	772	574
75°	293	349	439	499	513	310
85°	60	111	138	134	134	72
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1950.5	1950.5	1950.5	1950.5	1950.5
2.5°	1952.2	1952.2	1943.4	1952.2	1954.0
5°	1941.6	1945.2	1936.3	1946.9	1948.7
7.5°	1931.1	1931.1	1925.8	1936.3	1938.1
10°	1911.7	1913.4	1911.7	1924.0	1925.8
12.5°	1887.0	1890.5	1892.3	1904.6	1906.4
15°	1857.0	1862.3	1865.8	1881.7	1885.2
17.5°	1823.5	1828.8	1837.6	1855.2	1858.8
20°	1782.9	1790.0	1800.6	1823.5	1828.8
22.5°	1738.8	1745.9	1763.5	1784.7	1793.5
25°	1687.7	1701.8	1719.4	1747.6	1752.9
27.5°	1636.5	1648.9	1671.8	1701.8	1708.9
30°	1576.6	1596.0	1624.2	1654.2	1661.2
32.5°	1518.4	1537.8	1571.3	1603.0	1611.9
35°	1458.4	1476.1	1511.3	1548.4	1559.0
37.5°	1389.7	1412.6	1451.4	1488.4	1499.0
40°	1317.3	1345.6	1389.7	1428.5	1440.8
42.5°	1248.6	1278.6	1322.6	1365.0	1379.1
45°	1176.3	1204.5	1257.4	1305.0	1315.6
47.5°	1102.2	1133.9	1190.4	1238.0	1255.6
50°	1028.1	1061.6	1121.6	1171.0	1181.6
52.5°	954.1	989.3	1052.8	1105.7	1111.0
55°	876.5	915.3	982.3	1033.4	1044.0
57.5°	805.9	839.4	911.7	964.6	977.0
60°	728.3	765.4	843.0	892.3	908.2
62.5°	654.3	693.1	774.2	823.6	837.7
65°	576.7	620.8	700.1	758.3	772.4
67.5°	509.7	552.0	636.6	693.1	707.2
70°	432.1	479.7	569.6	627.8	641.9
72.5°	365.0	414.4	504.4	560.8	582.0
75°	292.7	349.2	439.1	499.1	513.2
77.5°	222.2	287.5	379.2	425.0	425.0
80°	158.7	227.5	312.1	333.3	336.8
82.5°	104.0	171.1	231.0	229.3	229.3
85°	60.0	111.1	137.6	134.0	134.0
87.5°	22.9	45.9	49.4	49.4	47.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)