

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: 3602

Luminaire Tested: **HDR-150S**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: 3602
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: HDR-150S
Description: FAIL-SAFE
Light Source: LU150S 16000 LUMENS
Ballast/Driver: -

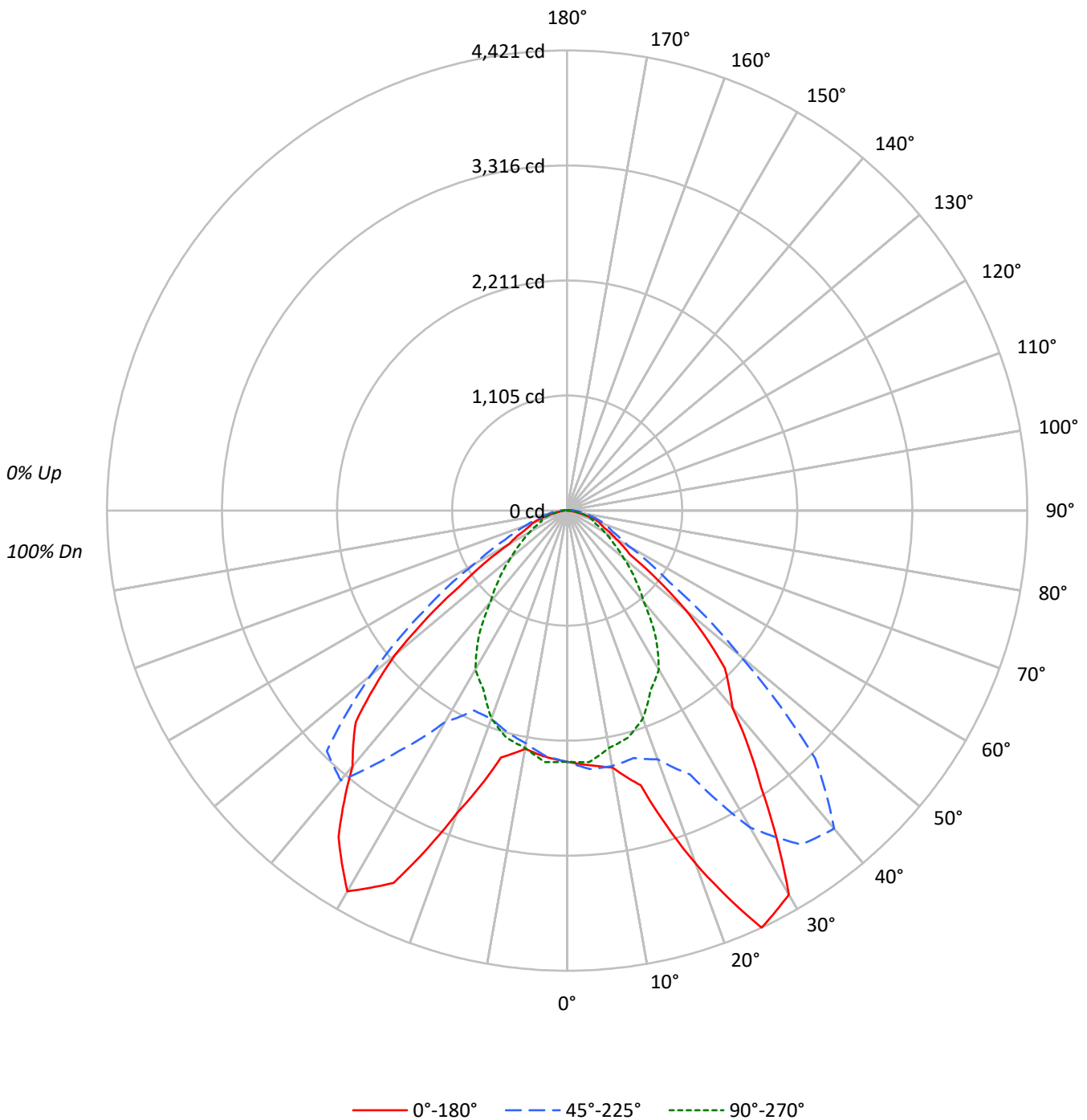
Summary

Lumens per Lamp: 16000 (1 lamp)
Luminaire Lumens: 7806.2 lumens
Efficiency: 48.8%
Efficacy: 52.0 lumens/watt
Spacing Criteria (0/90/45): 1.73 / 1.1 / 1.67
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 1' x H: 0.25')
CIE Type: Direct

Input Watts (W): 150
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

TEST NUMBER: 3602
CATALOG NUMBER: HDR-150S

Luminous Intensity Polar Plot





TEST NUMBER: 3602
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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	58	58	58	58	57	57	57	57	54	54	54	52	52	52	50	50	50	49
1	54	52	50	48	52	50	49	47	48	47	46	46	45	44	45	44	43	42
2	49	46	43	40	48	45	42	40	43	41	39	41	39	38	40	38	37	36
3	45	41	37	34	44	40	36	34	38	35	33	37	35	32	36	34	32	31
4	42	36	32	29	41	36	32	29	34	31	29	33	30	28	32	30	28	27
5	38	32	28	25	37	32	28	25	31	27	25	30	27	25	29	26	24	23
6	35	29	25	22	35	29	25	22	28	24	22	27	24	22	26	24	21	20
7	33	26	22	19	32	26	22	19	25	22	19	25	21	19	24	21	19	18
8	31	24	20	17	30	24	20	17	23	20	17	22	19	17	22	19	17	16
9	28	22	18	16	28	22	18	15	21	18	15	21	18	15	20	17	15	14
10	27	20	16	14	26	20	16	14	20	16	14	19	16	14	19	16	14	13

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	25973	25973	25973
5°	25959	25652	25113
10°	26234	24245	24329
15°	28543	23583	25640
20°	37903	22322	32454
25°	47025	20210	41972
30°	46270	19127	45868
35°	36366	16584	42819
40°	28689	13322	37260
45°	26073	11216	34975
50°	19133	9147	27816
55°	10206	7481	17175
60°	8127	6249	9660
65°	6549	5090	7511
70°	6138	4907	6679
75°	4088	4088	4561
80°	2256	2820	2615
85°	704	1633	1633



TEST NUMBER: 3602
 CATALOG NUMBER: HDR-150S

ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	45°	90°	135°	180°	Flux
0°-10°	229.9	2.9	1.4	0°	2413	2413	2413	2413	2413	
10°-20°	692.2	8.9	4.3	5°	2455	2492	2426	2367	2375	236
20°-30°	1284.7	16.5	8.0	15°	2733	2462	2258	2207	2455	834
30°-40°	1825.2	23.4	11.4	25°	4421	2799	1900	2119	3946	1941
40°-50°	1807.3	23.2	11.3	35°	3252	3917	1483	2821	3829	2061
50°-60°	1019.7	13.1	6.4	45°	2141	3369	921	3266	2872	1586
60°-70°	530.0	6.8	3.3	55°	738	1198	541	1681	1242	779
70°-80°	278.6	3.6	1.7	65°	395	482	307	650	453	410
80°-90°	100.3	1.3	0.6	75°	190	278	190	263	212	213
90°-100°	29.7	0.4	0.2	85°	22	117	51	124	51	34
100°-110°	9.7	0.1	0.1	90°	0	58	37	73	37	2
110°-120°	1.4	0.0	0.0	95°	0	51	15	37	22	0
120°-130°	0.0	0.0	0.0	105°	0	0	0	7	0	0
130°-140°	0.0	0.0	0.0	115°	0	0	0	0	0	0
140°-150°	0.0	0.0	0.0	125°	0	0	0	0	0	0
150°-160°	0.0	0.0	0.0	135°	0	0	0	0	0	0
160°-170°	0.0	0.0	0.0	145°	0	0	0	0	0	0
170°-180°	0.0	0.0	0.0	155°	0	0	0	0	0	0
0°-30°	2206.8	28.3	13.8	165°	0	0	0	0	0	0
0°-40°	4032.0	51.7	25.2	175°	0	0	0	0	0	0
0°-60°	6859.0	87.9	42.9	180°	0	0	0	0	0	0
0°-90°	7767.8	99.5	48.5							
90°-120°	40.9	0.5	0.3							
90°-150°	40.9	0.5	0.3							
90°-180°	41.0	0.5	0.3							
0°-180°	7806.2	100.0	48.8							



TEST NUMBER: 3602
 CATALOG NUMBER: HDR-150S

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	2413	2413	2413	2413	2413	2413	2413	2413	2413	2413	2413
5°	2455	2462	2492	2492	2492	2492	2470	2455	2441	2419	2426
10°	2506	2543	2550	2543	2521	2492	2455	2397	2367	2331	2316
15°	2733	2747	2747	2711	2565	2462	2441	2389	2375	2280	2258
20°	3610	3602	3449	3200	2821	2543	2324	2272	2258	2148	2126
25°	4421	4370	4209	3924	3412	2799	2272	2017	1995	1929	1900
30°	4260	4121	4318	4435	4253	3515	2477	1812	1695	1732	1761
35°	3252	3200	3646	4107	4399	3917	2989	1798	1447	1439	1483
40°	2470	2484	3032	3559	4172	3990	3383	1951	1257	1103	1147
45°	2141	2199	2514	2806	3339	3369	3127	1995	1111	884	921
50°	1483	1476	1542	1476	1929	2163	2360	1761	965	694	709
55°	738	775	965	840	921	1198	1513	1388	826	541	541
60°	541	555	709	665	636	680	943	979	672	424	416
62.5°	475	468	628	614	577	577	753	811	606	380	365
65°	395	409	548	533	526	482	606	650	519	329	307
67.5°	351	365	490	475	460	438	490	526	438	307	263
70°	329	351	446	424	402	387	416	431	387	285	263
72.5°	285	292	365	358	343	336	351	336	336	263	227
75°	190	219	278	270	270	278	270	263	256	219	190
77.5°	124	168	219	219	219	227	227	219	205	183	146
80°	88	110	153	161	175	183	175	175	161	139	110
82.5°	51	73	110	124	124	146	139	139	124	117	88
85°	22	51	66	88	95	117	110	110	88	88	51
87.5°	15	37	51	80	80	88	95	88	66	58	37
90°	0	29	15	51	58	58	29	66	37	37	37
95°	0	7	0	7	37	51	7	51	15	29	15
105°	0	0	0	0	0	0	0	15	15	15	0
115°	0	0	0	0	0	0	0	0	0	0	0
125°	0	0	0	0	0	0	0	0	0	0	0
135°	0	0	0	0	0	0	0	0	0	0	0
145°	0	0	0	0	0	0	0	0	0	0	0
155°	0	0	0	0	0	0	0	0	0	0	0
165°	0	0	0	0	0	0	0	0	0	0	0
175°	0	0	0	0	0	0	0	0	0	0	0
180°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: 3602
 CATALOG NUMBER: HDR-150S

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2413	2413	2413	2413	2413	2413	2413	2413	2413	2413
5°	2404	2397	2375	2375	2367	2367	2375	2397	2397	2375
10°	2294	2294	2265	2294	2272	2287	2324	2324	2346	2324
15°	2243	2236	2214	2199	2207	2243	2331	2404	2455	2455
20°	2082	2075	2053	2053	2126	2316	2601	2894	3120	3091
25°	1849	1841	1776	1871	2119	2645	3200	3639	3902	3946
30°	1703	1644	1571	1834	2346	3303	4114	4399	4282	4223
35°	1439	1337	1366	1856	2821	4070	4552	4486	4026	3829
40°	1140	1060	1235	2061	3383	4128	4457	4209	3522	3208
45°	921	855	1111	2199	3266	3741	4070	3449	3054	2872
50°	709	701	1001	1966	2462	2623	2536	2265	2280	2156
55°	533	548	891	1505	1681	1498	1191	1198	1242	1242
60°	409	431	716	1067	1038	811	716	840	745	643
62.5°	365	380	636	906	833	658	628	745	628	555
65°	322	336	533	701	650	533	548	636	541	453
67.5°	292	300	453	570	533	460	482	548	468	387
70°	270	278	373	453	431	395	431	453	416	358
72.5°	256	256	314	351	351	343	351	373	336	292
75°	212	205	256	248	263	270	285	278	270	212
77.5°	183	168	205	197	227	219	227	212	197	153
80°	124	124	161	146	175	168	175	146	146	102
82.5°	102	95	117	102	153	124	132	102	102	73
85°	66	66	88	88	124	95	102	73	66	51
87.5°	44	51	58	66	88	66	88	51	51	44
90°	37	37	44	29	73	44	73	37	37	37
95°	22	15	15	22	37	44	44	37	15	22
105°	15	0	0	0	7	15	15	15	0	0
115°	0	0	0	0	0	0	0	0	0	0
125°	0	0	0	0	0	0	0	0	0	0
135°	0	0	0	0	0	0	0	0	0	0
145°	0	0	0	0	0	0	0	0	0	0
155°	0	0	0	0	0	0	0	0	0	0
165°	0	0	0	0	0	0	0	0	0	0
175°	0	0	0	0	0	0	0	0	0	0
180°	0	0	0	0	0	0	0	0	0	0

(END OF REPORT)