



Spectroradiometer Lightsource Test

Report No: 64

Test Time: 2023-07-05 15:48:45

Category: Industrial

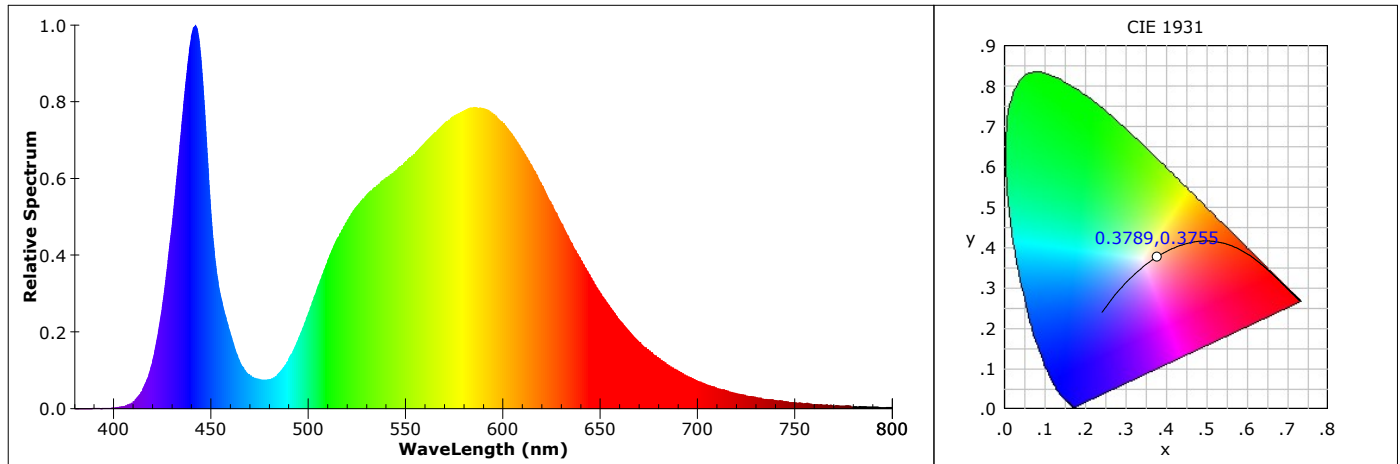
Type: LED

Spec: Hydra 200W High T

Number: 64

Manufacturer: Industrial Lighting

Submitter:



CIE Colorimetric Parameters

CIE(x,y): 0.3789,0.3755

CIE(u,v): 0.2246,0.3339

CIE(u',v'): 0.2246,0.5008

CCT: 4034 K (Duv=-0.000135)

Dominant Wavelength: 579.0 nm

Color Purity: 0.264

Peak Wavelength: 441.9 nm

Half Width: 19.9 nm

Color Ratio: R:0.166, G:0.812, B:0.021

Color Render Index: Ra:70.9 , avgR(1~14):61.1 , avgR(1~15):61.2

R1: 69

R2: 76

R3: 83

R4: 72

R5: 69

R6: 68

R7: 78

R8: 52

R9: -33

R10: 45

R11: 71

R12: 47

R13: 69

R14: 90

R15: 62

Color Quality Scale: Qa:72.0 , Qf:71.1 , Qp:74.9 , Qg:91.9 ,

Q1: 72

Q2: 94

Q3: 67

Q4: 66

Q5: 72

Q6: 71

Q7: 74

Q8: 83

Q9: 93

Q10: 76

Q11: 72

Q12: 72

Q13: 73

Q14: 58

Q15: 63

TM-30-18: Rf:71 , Rg:97

Gamut Area Index (GAI): GAI_EES:73.2 , GAI_BB_8:92.2 , GAI_BB_15:95.2

Photometric Parameters

Luminous Flux: 35756.42 lm

Radiant Power: 103.623 W

Efficiency: 172.15 lm/W

Energy Efficiency Class:C (EU 2019/2015 η_{TM} :172.15lm/W)

S/P: 1.495

Pupil Flux: 48939.20 Plm (Kp=1.369)

Pupil Lumens per Watt: 235.61 Plm/W

Cirtpopic Flux: 95873.77 lm

Mesopic Flux (CIE R.): 41499.90 lm (Lp=0.100)

Mesopic Flux (USP): 46257.58 lm (Lp=0.100)

Mesopic Flux (MOVE): 42484.04 lm (Lp=0.100)

Electric Parameters

Voltage: 230.100 V

Current: 0.9180 A

Power: 207.710 W

Power Factor: 0.9820

Frequency: 49.99 Hz

Geometry: 4n, m

Warmup Time: 30 Minutes

Spectroradiometer: LMS-9000A

Self-absorption Factor: 1.238

Integration Time: 8 ms

Digital Power Meter: LS2010

Photometric Method: sphere-spectroradiometer

Peak of Signal: 46054

Power Source: LSP Series

Test Lab:

Testing Environment: Ts:30.2°C, Ta:31.5°C,

Operator:

Approver:



IES TM-30-18 Color Rendition Report

Report No: 64**Test Time:** 2023-07-05 15:48:45

Category: Industrial

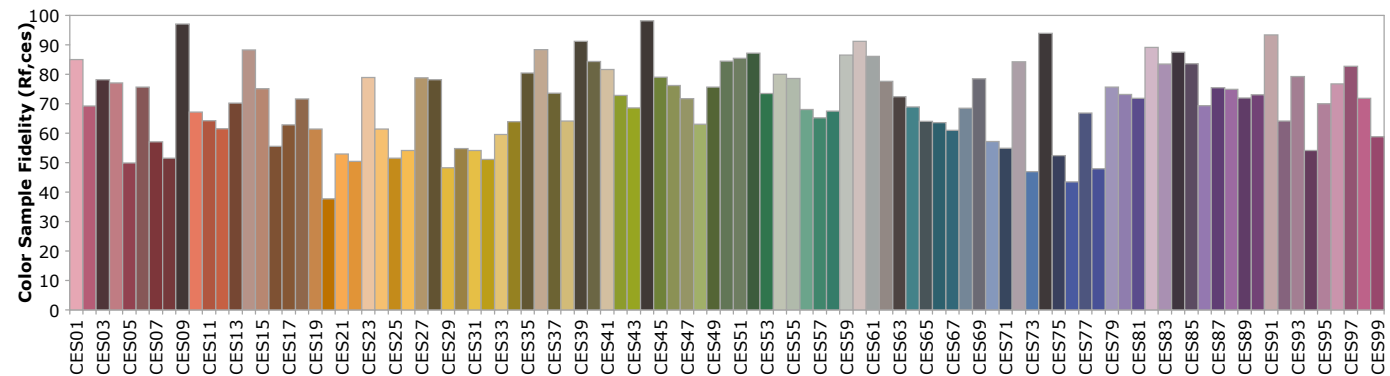
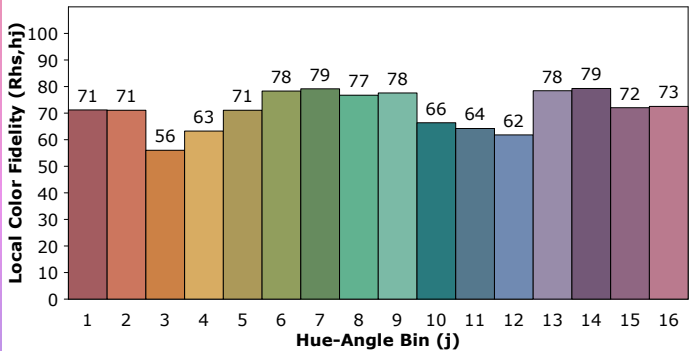
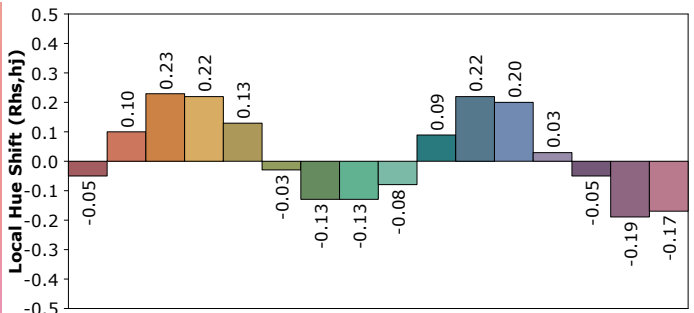
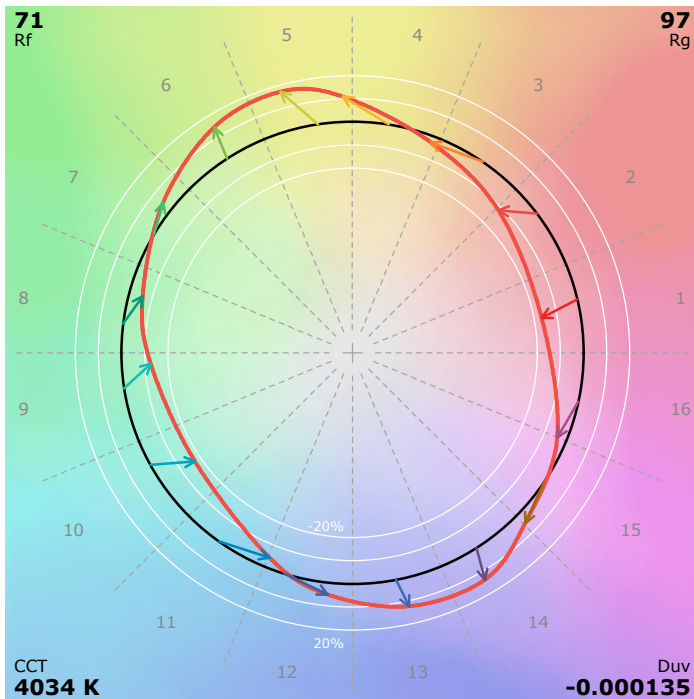
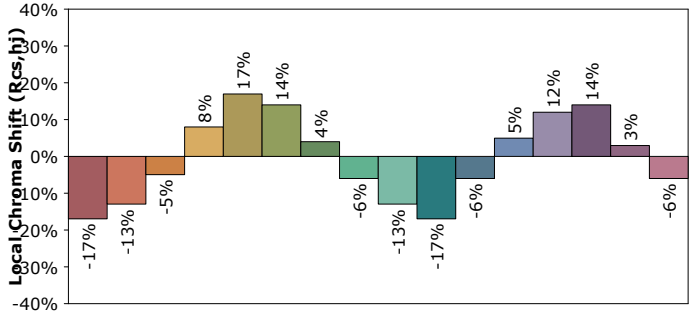
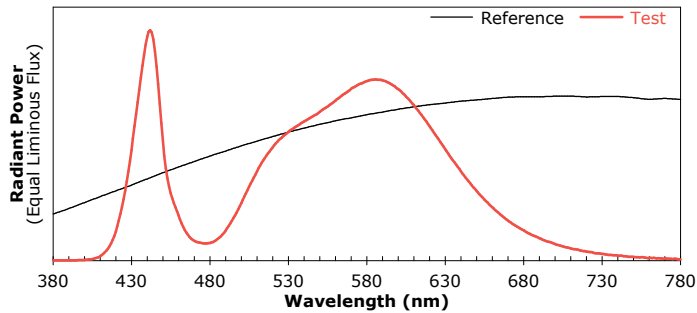
Type: LED

Spec: Hydra 200W High T

Number: 64

Manufacturer: Industrial Lighting

Submitter:

**Notes:** This is a recommended method for displaying IES TM-30-18 information.

x 0.3789
y 0.3755
u' 0.2246
v' 0.5008

CIE13.3-1995
(CRI)
Ra 71
R9 -33

Test Lab:

Operator:

Testing Environment: Ts:30.2°C, Ta:31.5°C,

Approver:



Spectral Power Distribution Data

Report No: 64**Test Time:** 2023-07-05 15:48:45

Category: Industrial

Type: LED

Spec: Hydra 200W High T

Number: 64

Manufacturer: Industrial Lighting

Submitter:

WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0004	0.3373	525	0.5436	433.5106	670	0.1787	142.4648
385	0.0006	0.4455	530	0.5745	458.1516	675	0.1551	123.6971
390	0.0010	0.7622	535	0.5986	477.3396	680	0.1345	107.2662
395	0.0013	1.0140	540	0.6211	495.2518	685	0.1157	92.2417
400	0.0025	2.0065	545	0.6409	511.0338	690	0.1000	79.7629
405	0.0066	5.2614	550	0.6637	529.2381	695	0.0857	68.3301
410	0.0194	15.4839	555	0.6871	547.8948	700	0.0735	58.6465
415	0.0529	42.1885	560	0.7148	569.9977	705	0.0635	50.5993
420	0.1294	103.1898	565	0.7411	590.9395	710	0.0539	42.9730
425	0.2741	218.5513	570	0.7667	611.3889	715	0.0473	37.7370
430	0.4936	393.5737	575	0.7873	627.8099	720	0.0399	31.7910
435	0.7632	608.5543	580	0.8011	638.8248	725	0.0342	27.2488
440	1.0000	797.4192	585	0.8094	645.4614	730	0.0292	23.3136
445	0.9346	745.2408	590	0.8051	642.0219	735	0.0251	20.0017
450	0.5345	426.1874	595	0.7906	630.4314	740	0.0217	17.3203
455	0.3017	240.5630	600	0.7662	611.0139	745	0.0191	15.2202
460	0.2013	160.5374	605	0.7336	585.0106	750	0.0161	12.8592
465	0.1249	99.5623	610	0.6939	553.3270	755	0.0146	11.6286
470	0.0881	70.2798	615	0.6499	518.2676	760	0.0114	9.0970
475	0.0782	62.3713	620	0.6004	478.7794	765	0.0099	7.8852
480	0.0785	62.6155	625	0.5500	438.6133	770	0.0075	5.9875
485	0.0961	76.6431	630	0.4977	396.9067	775	0.0071	5.6658
490	0.1340	106.8192	635	0.4471	356.5440	780	0.0055	4.3995
495	0.1893	150.9264	640	0.3990	318.2006	785	0.0059	4.7162
500	0.2561	204.1935	645	0.3537	282.0114	790	0.0047	3.7229
505	0.3295	262.7234	650	0.3117	248.5362	795	0.0030	2.3612
510	0.3980	317.3951	655	0.2732	217.8495	800	0.0031	2.4511
515	0.4577	364.9468	660	0.2376	189.4764			
520	0.5061	403.5883	665	0.2065	164.6533			

Test Lab:

Operator:

Testing Environment: Ts:30.2°C, Ta:31.5°C,

Approver:



Warmup Curve

Report No: 64

Test Time: 2023-07-05 15:48:45

Category: Industrial

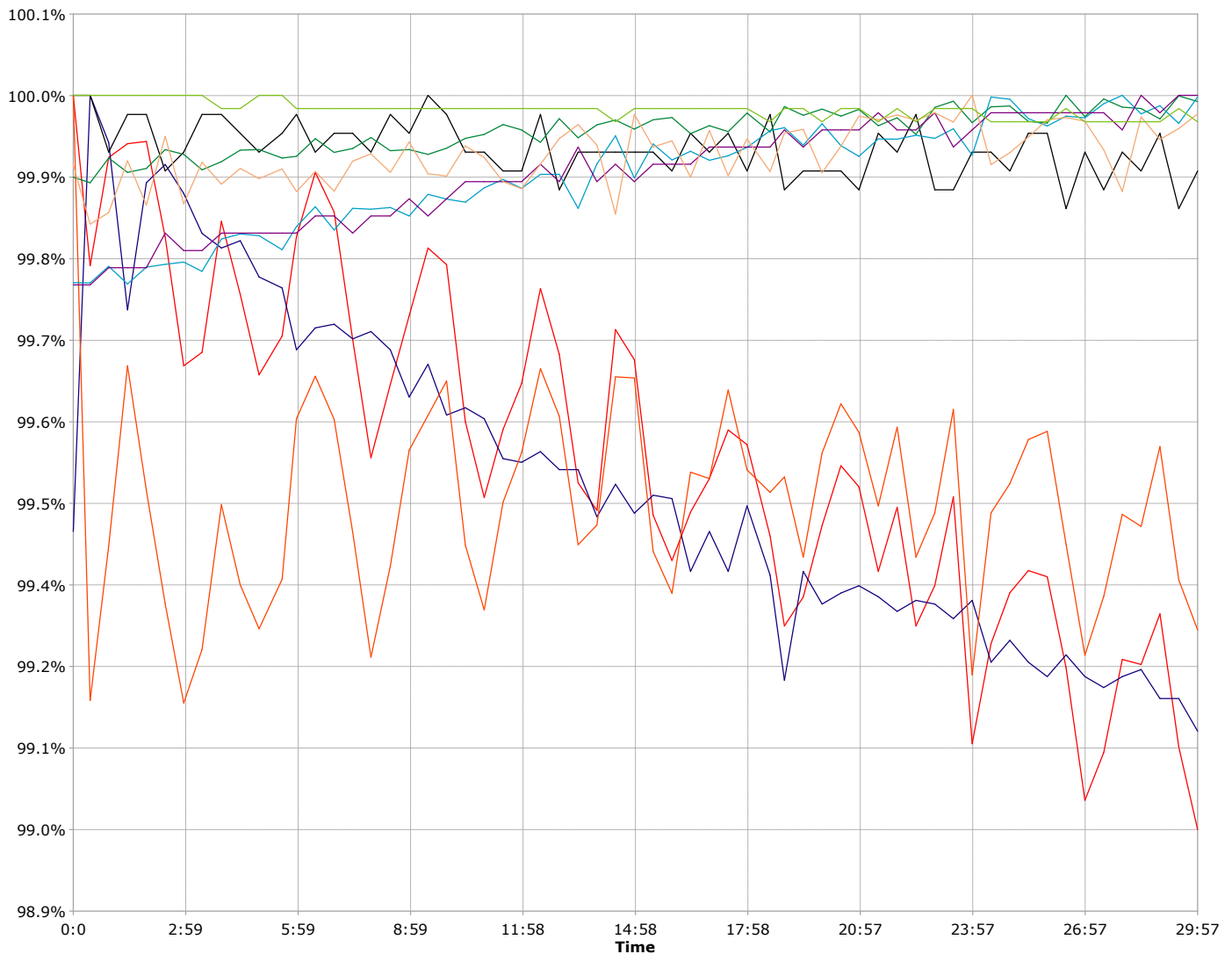
Type: LED

Spec: Hydra 200W High T

Number: 64

Manufacturer: Industrial Lighting

Submitter:



Stable time: 29:57

Uptime: 0:0

Parameters	Maximum	Minimum	Change
Luminous Flux ,lm	36055.29	35707.51	347.78
Power ,W	209.460	207.710	1.750
Efficiency ,lm/W	173.13	171.74	1.38
CCT ,K	4038	4032	6
CIE x	0.3789	0.3785	0.0004
CIE y	0.3755	0.3746	0.0009
Peak Wavelength ,nm	441.9	440.8	1.1
Ra	70.9	70.8	0.1
Dominant Wavelength ,nm	579.2	579.0	0.2

Test Lab:

Operator:

Testing Environment: Ts:30.2°C, Ta:31.5°C,

Approver: