



Spectroradiometer Lightsource Test

Report No: 9**Test Time:** 2024-06-10 10:10:56

Category: Industrial

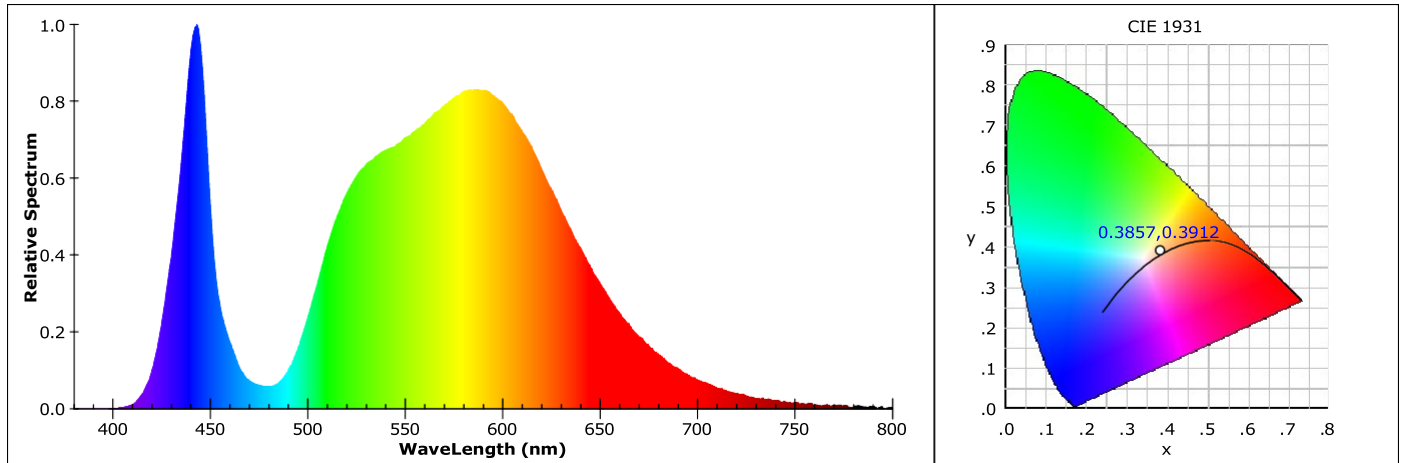
Type: LED

Spec: Hydra Alphard 320W272-230

Number: 9

Manufacturer: Industrial Lighting Ltd.

Submitter:



CIE Colorimetric Parameters

CIE(x,y): 0.3857,0.3912

CIE(u,v): 0.2228,0.3390

CIE(u',v'): 0.2228,0.5086

CCT: 3967 K (Duv=0.005134)

Dominant Wavelength: 576.8 nm

Color Purity: 0.332

Peak Wavelength: 442.8 nm

Half Width: 18.2 nm

Color Ratio: R:0.165, G:0.818, B:0.017

Color Render Index: Ra:69.7 , avgR(1~14):59.3 , avgR(1~15):59.3

R1: 67

R2: 75

R3: 82

R4: 72

R5: 67

R6: 66

R7: 78

R8: 51

R9: -38

R10: 41

R11: 70

R12: 41

R13: 68

R14: 90

R15: 59

Color Quality Scale: Qa:72.5 , Qf:72.2 , Qp:74.0 , Qg:90.4 ,

Q1: 71

Q2: 95

Q3: 69

Q4: 68

Q5: 72

Q6: 70

Q7: 73

Q8: 83

Q9: 93

Q10: 77

Q11: 75

Q12: 74

Q13: 75

Q14: 57

Q15: 62

Photometric Parameters

Luminous Flux: 59254.04 lm

Radiant Power: 165.865 W

Efficiency: 180.21 lm/W

Energy Efficiency Class:C (EU 2019/2015 η_{TM} :180.21lm/W)

S/P: 1.450

Pupil Flux: 79192.02 Plm (Kp=1.336)

Pupil Lumens per Watt: 240.85 Plm/W

Cirtopic Flux: 150685.11 lm

Mesopic Flux (CIE R.): 64780.97 lm (Lp=0.300)

Mesopic Flux (USP): 65722.42 lm (Lp=0.300)

Mesopic Flux (MOVE): 66076.70 lm (Lp=0.300)

Electric Parameters

Voltage: 230.000 V

Current: 1.4660 A

Power: 328.800 W

Power Factor: 0.9740

Frequency: 49.99 Hz

Geometry: 4n, m

Warmup Time: 29 Minutes 10 Seconds

Spectroradiometer: LMS-9000A

Self-absorption Factor: 1.237

Integration Time: 6 ms

Digital Power Meter: LS2010

Photometric Method: sphere-spectroradiometer

Peak of Signal: 48037

Power Source: LSP Series

Test Lab:

Testing Environment: Ts:27.7°C, Ta:26.8°C,

Operator:

Approver:



IES TM-30-18 Color Rendition Report

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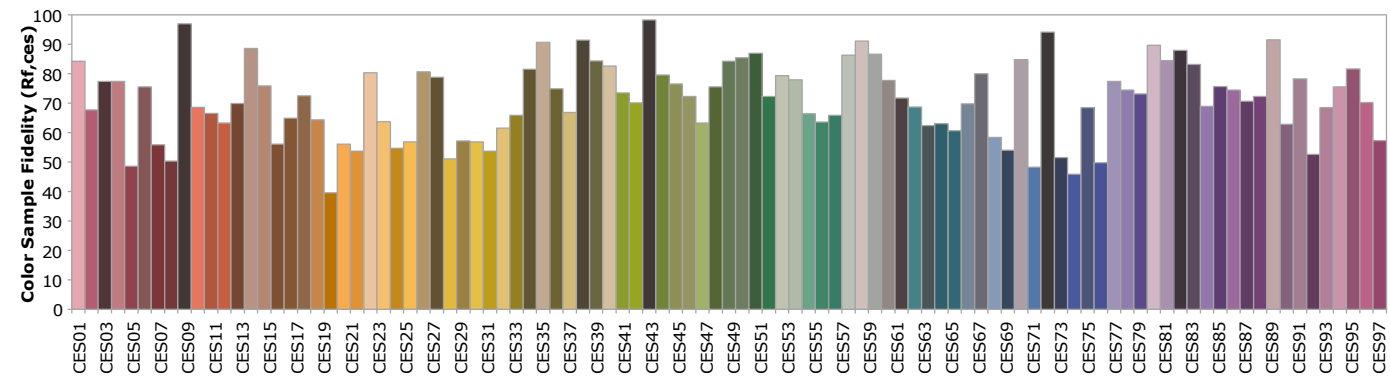
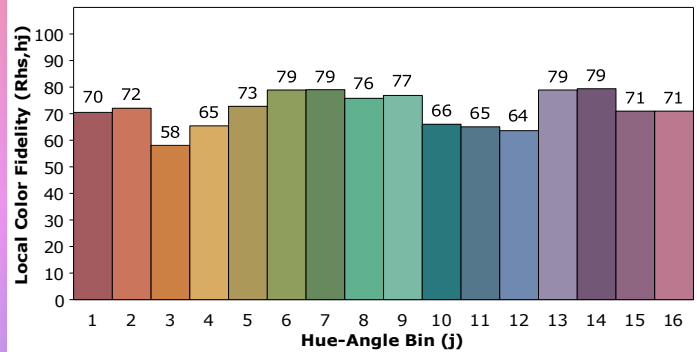
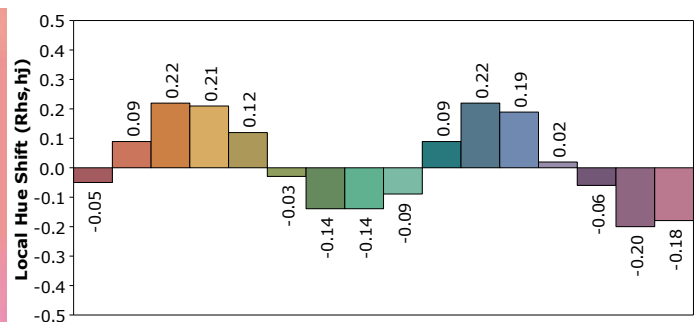
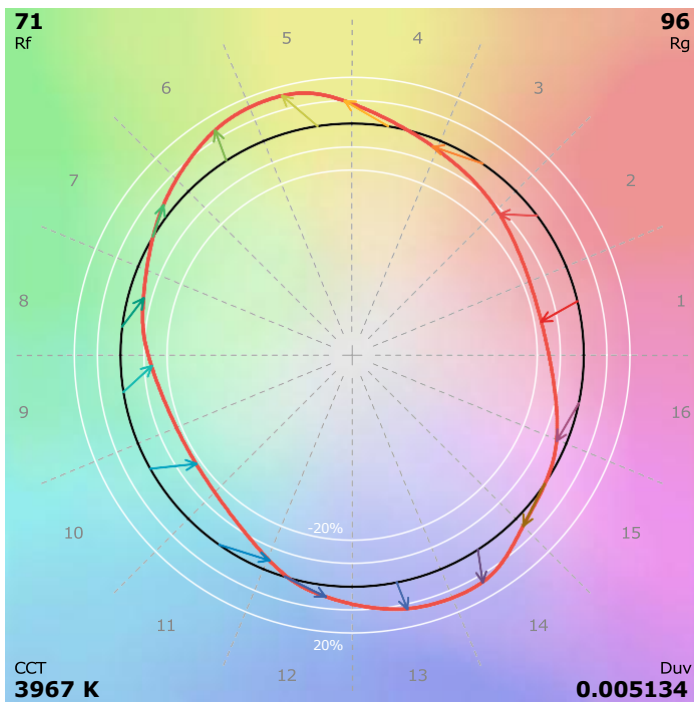
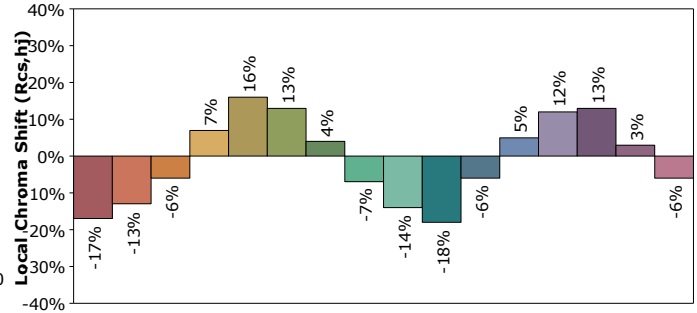
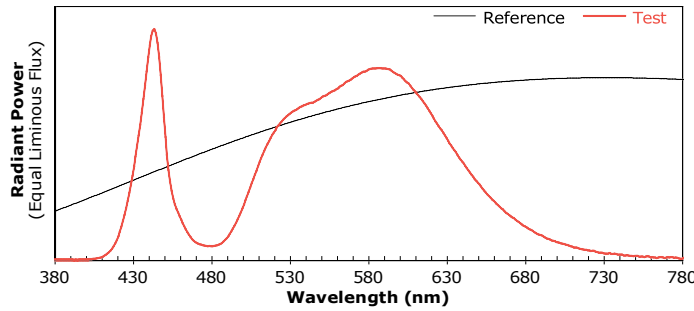
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Submitter:



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

x 0.3857
y 0.3912
z 0.2228
z' 0.5086

CIE13.3-1995
(CRI)
Ra 70
R9 -38

Test Lab:

Operator:

Testing Environment: Ts:27.7°C, Ta:26.8°C,

Approver:



Spectral Power Distribution Data

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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0003	0.3135	525	0.6447	764.3351	670	0.1985	235.3446
385	0.0000	0.0048	530	0.6775	803.2578	675	0.1732	205.3975
390	0.0004	0.4514	535	0.6998	829.6761	680	0.1487	176.3057
395	0.0001	0.0960	540	0.7172	850.2618	685	0.1268	150.3468
400	0.0011	1.3282	545	0.7283	863.4719	690	0.1099	130.3421
405	0.0043	5.0911	550	0.7512	890.6731	695	0.0931	110.3838
410	0.0131	15.5076	555	0.7707	913.7435	700	0.0790	93.6746
415	0.0411	48.6916	560	0.7907	937.4359	705	0.0688	81.5127
420	0.1079	127.9190	565	0.8195	971.6503	710	0.0560	66.4513
425	0.2376	281.6405	570	0.8411	997.1534	715	0.0476	56.4598
430	0.4290	508.6482	575	0.8622	1022.2358	720	0.0418	49.5966
435	0.6787	804.6382	580	0.8793	1042.5392	725	0.0350	41.4759
440	0.9896	1173.2709	585	0.8832	1047.0687	730	0.0279	33.0556
445	1.0000	1185.5902	590	0.8818	1045.4874	735	0.0264	31.2453
450	0.5646	669.4189	595	0.8653	1025.8721	740	0.0233	27.6485
455	0.2817	333.9950	600	0.8461	1003.1023	745	0.0181	21.4754
460	0.1842	218.4252	605	0.8119	962.5858	750	0.0171	20.3028
465	0.1146	135.8135	610	0.7655	907.5909	755	0.0116	13.7068
470	0.0758	89.8711	615	0.7201	853.7226	760	0.0113	13.3507
475	0.0642	76.1249	620	0.6623	785.1808	765	0.0106	12.5652
480	0.0615	72.9142	625	0.6059	718.3276	770	0.0104	12.3361
485	0.0720	85.3057	630	0.5479	649.5740	775	0.0095	11.3191
490	0.1074	127.3646	635	0.4956	587.5294	780	0.0079	9.4085
495	0.1698	201.3148	640	0.4434	525.6442	785	0.0053	6.2576
500	0.2540	301.1253	645	0.3916	464.3256	790	0.0061	7.2730
505	0.3519	417.2313	650	0.3463	410.5485	795	0.0013	1.5422
510	0.4511	534.8212	655	0.3013	357.2006	800	0.0044	5.2388
515	0.5327	631.5421	660	0.2643	313.3590			
520	0.5968	707.5065	665	0.2306	273.4202			

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Warmup Curve

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