Test Report

M/s. MIKA ENGINEERS

REPORT NUMBER: 4787159663-01-NABL-S1

PROJECT NUMBER: 4787159663-01

T1431, T1432, T2215, T2216, T2233, T2234

Location (a)
UL India Lab,
UL India Pvt Limited,
Laboratory building,
Kalyani Platina
Campus, Sy.no.129/4,
EPIP Zone, Phase II,
Whitefield,
Bangalore – 560 066
P:91-80-41384400

Location (b)
UL India Pvt Limited,
413 Sector-8, IMT
Manesar, Gurgaon.
P:91-124-4215707

TEST DISCIPLINE: PHOTOMETRY

General details

Customer / Applicant	M/s. MIKA ENGINEERS D-101, DHEERAJ HERITAGE RESIDENCY II, SHASTRI NAGAR, SANTA CRUZ (W), MUMBAI, , MAHARASHTRA, 400054		
Manufacturer	M/s. MIKA ENGINEERS		
Program	NABL		
Test Lab Location	(b) UL Manesar	**Refer to Cover page for the UL address**	
Item Under Test	40W Well Glass Fixture		
Model	ME-WG40-01-019		
Number of Samples	1		
UL Sample Identification	2245223	**Refer Summary of Test results for multiple samples**	
Manufacturer Serial Number (if any)	MEWG40WS001		
Condition of IUT on receipt	Good		
Date of Receipt	10 November 2015		
Applicable Standard	IES LM 79-08		
Date of Testing (Start date)	14 November 2015	**End Date**	14 November 2015
UL general^ ambient condition	**Temperature in °C**		23 ± 5°C
	Relative humidity in %		< 70%
Date of Reporting	16 November 2015		
Test In-charge	Navin Kumar Maurya		

Fill in the rows with information or add hyphen (-)

Ajay Kumar Patidar Engineer Project Associate	Satish Kumar Engineering Leader
Reviewed by	**Authorized signatory**

General Remarks (If any)

Description of Item under Test (IUT)

Sample Catalogue No: ME-WG40-01-019

Rated voltage: 230V AC, Frequency: 50Hz, Rated Input Current: 160mA, Rated Input Power Factor : >0.9
Rated Input Power: 35W +/- 10%

The sample of LED Luminaire tested was without LED Lenses.

LED Specification:
LED Make / Model: NICHIA / NF2L757DR, No of LEDs:88

LED Driver Specification :
Driver Make / Model : MIKA ENGINEERS / MK-DRV-40V11A, No of Drivers: 01

Summary of Test Results

Test No.	Test Parameter	Standard & Clause Number	UL Sample Identification	Result
1	Electrical and Photometric measurements	IES LM 79-08, Clause number 8, 9, 10 and 11	2245223	Evaluate by customer
2	Colorimetric measurements	IES LM 79-08, Clause number 12		Evaluate by customer

Reviewed by signature:

Test No.01 Electrical and Photometric measurements

Master Equipment and Calibration details

Serial No.	Test Equipment	UL Equipment ID	Calibration status (Valid up to)
1	Goniophotometer	GON02	Before use
2	Measured standard lamp	SL06	13.05.2016
3	Measured standard lamp	SL07	13.05.2016
4	Digital Power Meter	PM16	23.07.2016

Test methodology adopted

- The sample was tested according to the IES LM-79-2008.
- The condition of the sample tested was new. Stabilization time before testing was 72 minutes.
- Orientation (burning position) of SSL product during testing was its normal burning position i.e. at zero degree inclination to horizontal.
- Electrical measurements were obtained with a Yokogawa WT210 digital power meter.
- Photometric parameters were obtained using a Type-C Goniophotometer and software. Photometric distance was more than five times of the largest dimension of the test sample.
- The ambient temperature was maintained at (25 ± 1) ° C during testing.
- The sample was operated at 230Volts AC. It was stabilized before measurement. Luminous flux, luminous efficacy, zonal lumen were calculated from the software.

Test Observation

INPUT PARAMETER				
Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
230.01	50.00	0.1678	36.72	0.95

OUTPUT PARAMETER	
Flux (lm)	Efficacy (lm/W)
3168.0	86.3

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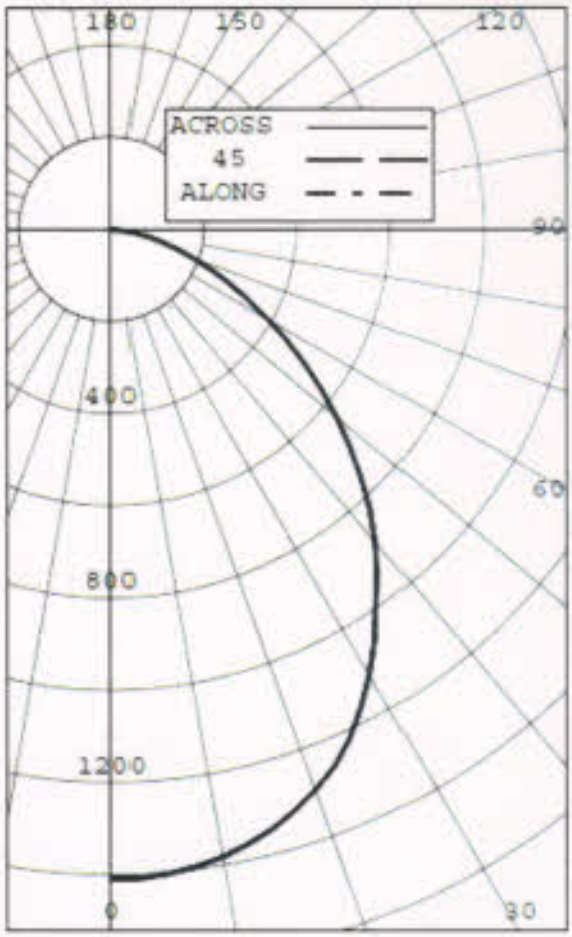
Light Distribution curve: [Unit: cd]



INTENSITY(CANDLEPOWER) SUMMARY

ANGLE	MEAN CP	LMS.	ANGLE	MEAN CP	LMS.
0	1410		90	0	
5	1404	135	95	0	0
10	1383		100	0	
15	1347	379	105	0	0
20	1293		110	0	
25	1218	557	115	0	0
30	1114		120	0	
35	994	622	125	0	0
40	884		130	0	
45	762	586	135	0	0
50	635		140	1	
55	511	456	145	1	1
60	392		150	1	
65	286	284	155	2	1
70	193		160	2	
75	117	125	165	3	1
80	54		170	3	
85	12	19	175	4	0
90	0		180	4	

ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	1071	33.82
0-40	1694	53.47
0-60	2736	86.37
0-90	3165	99.92
40-90	1471	46.44
60-90	429	13.54
90-180	3	0.08
0-180	3168	100.00

EFFICACY (LUMENS PER WATT): 86.3

*** THIS IS AN ABSOLUTE TEST ***

LUMINANCE SUMMARY CD./SQ.M.

ANGLE	MEAN CD/SQ M
45	61273
55	50628
65	38394
75	25587
85	8003

S/MH: 1.2
SC: 1.2

Reviewed by signature:
12-LO-F0851, Issue 3.0

Intensity Data:

ANGLE	INTENSITY (CANDLEPOWER)	LUMENS
0	1410	
5	1404	135
10	1383	
15	1347	379
20	1293	
25	1218	557
30	1114	
35	994	622
40	884	
45	762	586
50	635	
55	511	456
60	392	
65	286	284
70	193	
75	117	125
80	54	
85	12	19
90	0	
95	0	0
100	0	
105	0	0
110	0	
115	0	0
120	0	
125	0	0
130	0	
135	0	0
140	1	
145	1	1
150	1	
155	2	1
160	2	
165	3	1
170	3	
175	4	0
180	4	

Test No.02 Colorimetric Measurements

Master Equipment and Calibration details

Serial No.	Test Equipment	UL Equipment ID	Calibration status (Valid up to)
1	Integrating Sphere	TIS 02	Before use
2	Measured standard lamp	WSL 09	14.04.2016
3	Power Meter	PM12	23.07.2016

Test methodology adopted

- The sample was tested according to the IES LM-79-2008.
- Orientation (burning position) of SSL product during testing was its normal burning position i.e. at zero degree inclination to horizontal.
- Colorimetric parameters were measured using an integrating sphere, a spectroradiometer and software. 4π geometry was used.
- The ambient temperature was maintained at (25 ± 1) ° C during testing.
- The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. The sample was operated at 230 Volts AC. It was stabilized before measurement. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at 1 nm intervals over the range of 350 to 800nm.

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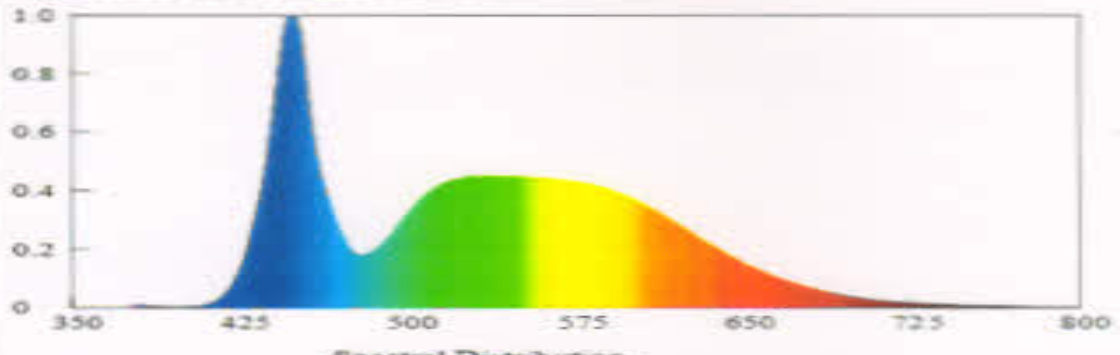
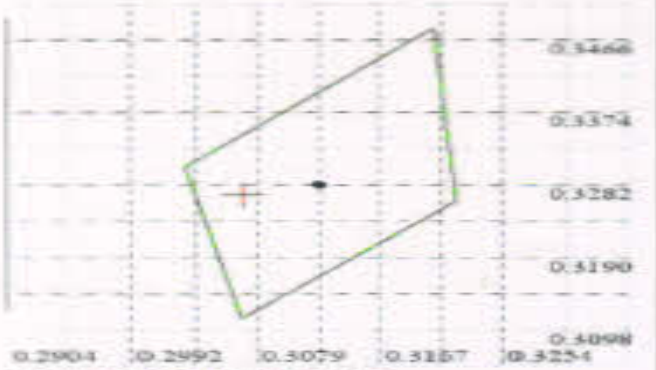
Test Observation

Spectroradiometric Parameters





Spectral Distribution

Chromaticity Coordinates: x=0.3069 y=0.3269 u'=0.1946 v'=0.4663

Correlated Color Temperature: 6850 K

Dominant Wavelength: 488.0 nm(E)

Purity: 0.0938

Chromaticity Difference: +0.00511Duv

Peak Wavelength: 450.2 nm

Color Ratio: Kr=29.0% Kg=58.2% Kb=12.7%

Bandwidth: 21.4nm

Radiant Flux: 8.611 W

Rendering Index: Ra=80.0

R1=78 R2=83 R3=86 R4=81 R5=79 R6=77 R7=87 R8=68

R9=-4 R10=60 R11=80 R12=53 R13=80 R14=92 R15=73

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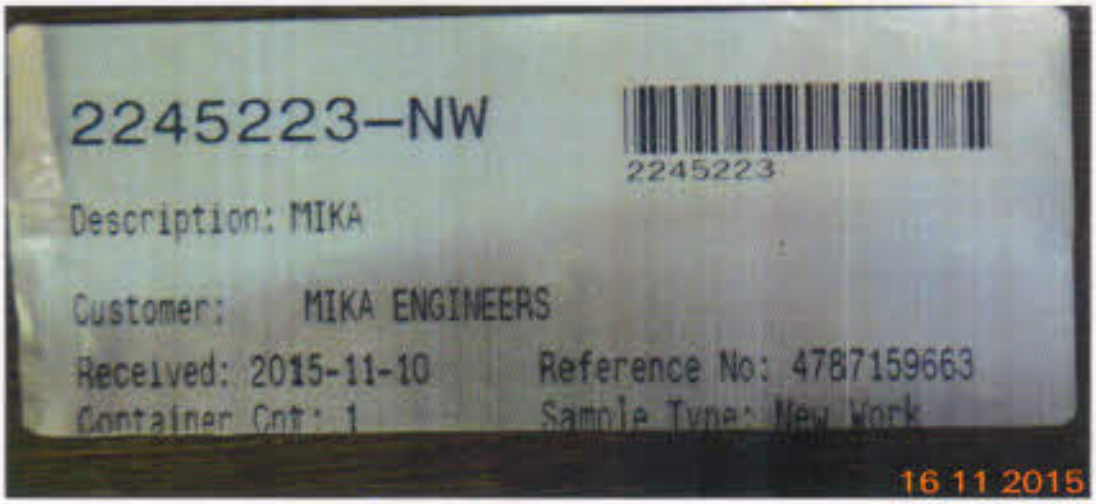
Appendix

Photographs

Front View

Rear View



Sample ID

******End of Report******

UL INDIA PVT. LTD. VESAR-122 050

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