

Report No.	MC-20013-T2-W40
Applicant	Ligman Lighting Company Limited
Manufacturer	Ligman Lighting Company Limited 17/2 Moo 4, Monthong, Bangnampreaw, Chachoengsao Thailand.24150
Description of sample	Product name : Macaron 2 Post top luminaire Brand : LIGMAN Model / Type : MC-20013-T2-W40 Cover similar design : -
Sample characteristic and condition	Normal
Date received	20/11/2018
Test date	20/11/2018
Test standard	LM79-2008
Certified by  (CHAIYOD TOA-ARD) Engineer Photometric Laboratory Section Date 20/11/2018	 (PONGSIRI DUANGSEANG) Chief Laboratory Division Date 20/11/2018

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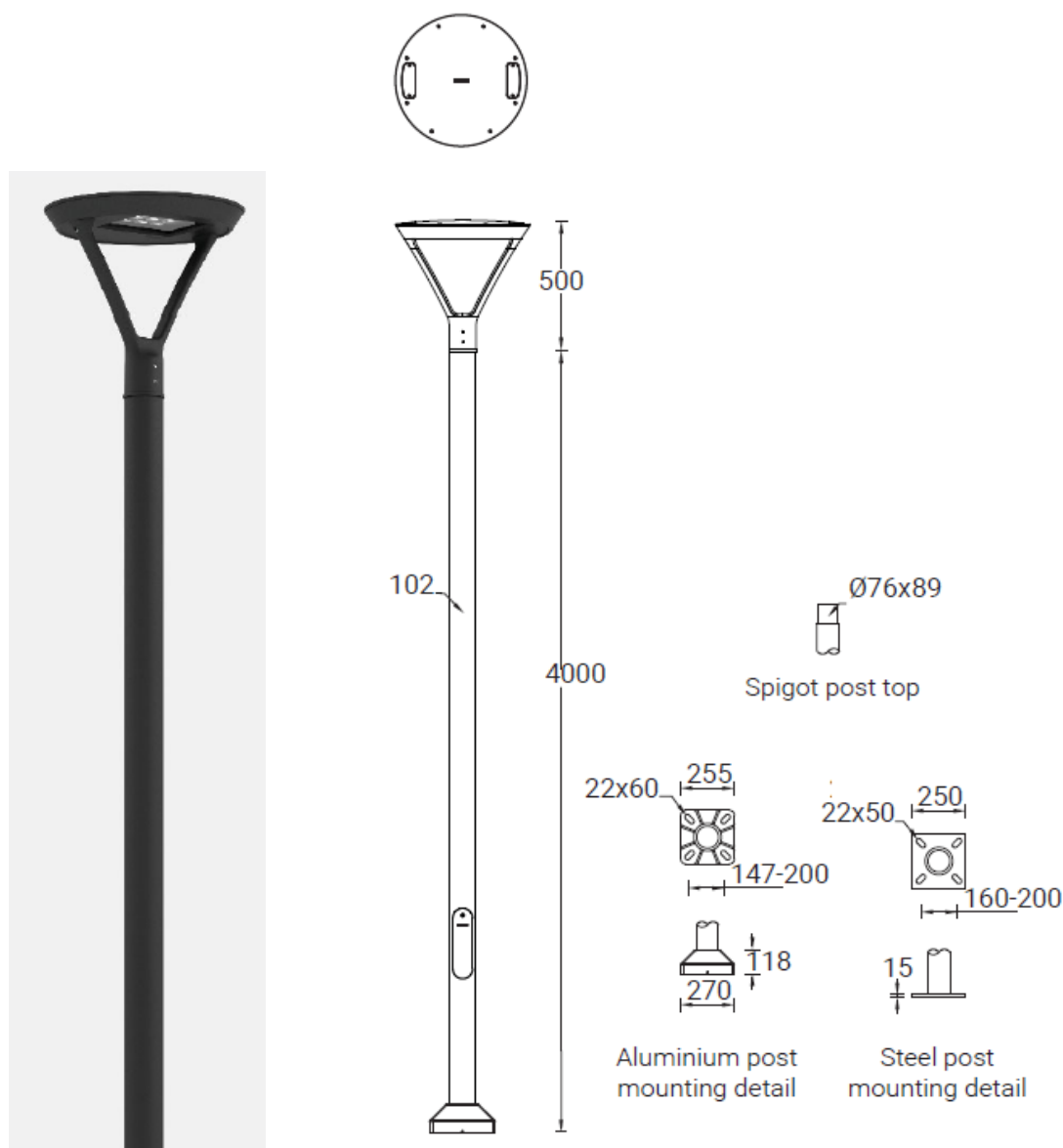
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Luminaire			Measurem.			Lamp	
Code	MC-20013-T2-W40		Code	LIGMAN		Code	ITLC035740-5050
Name	Macaron 2 Post top luminaire		Name	Macaron 2 Post top luminaire		Number	1
Line	Iesna 2002 Absolute		Date	20-11-2018		Position	
Luminaire Flux		14369.97 lm	Luminaire Power		141.00 W	Efficacy	101.91 lm/W
						Efficiency	100.00%
Lamps Flux		14369.97 lm	Maximum value	706.52 cd/klm	Position	C=20.00 G=57.50	CG Asymmetrical

Test method: according to LM79-2008

- Photometric parameter was measured using a Intergrating sphere, a Mirror Goniophotometer, a spectro radiometer and software.
- The Stabilization time typical ranges from 30 min (small integrated LED lamps) to 2 or more hours for large SSL luminaires It can be judged that stability is reached when the variation (maximum – minimum) of at least 3 readings of the light output and electrical power over a period of 30min, taken 15 minutes apart, is less than 0.5 %.
- The ambient temperature condition inside the testing room was maintained at 25°C ± 1°C.
- The sample was operated at 230 Volts AC 50Hz. It was stabilized before measurement.
- Chromaticity coordinates, correlated color temperature and color rendering index was calculated from the spectral radiant flux measurements taken at 2.2 nm intervals over the range of 360 to 830 nm. Method using a gonio-spectroradiometer measured at two vertical planes (C=0°/180° and C=90°/270°) and at 10° for vertical angle (Section 12.2)

Sample photo



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Test person:

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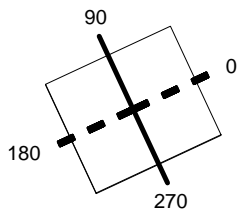
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Rectangular Luminaire		Length	200 mm	Width	230 mm
Rectangular Luminous Area		Length	200 mm	Width	230 mm
Horizontal Luminous Area		0.046000 m2		Emitting area on Plane 180°	
Emitting area on Plane 0°		0.000000 m2		Emitting area on Plane 270°	
Emitting area on Plane 90°		0.000000 m2		Glare area at 76°	
Coordinate system		CG		Symmetry Type	
Date		20-11-2018		Maximum Gamma Angle	
Measurement Distance		0.00		Measurement Flux	
Operator		25.00 °C		Source voltage	
Temperature		60.00 %		Source current	
Humidity				Photocell	
Notes					

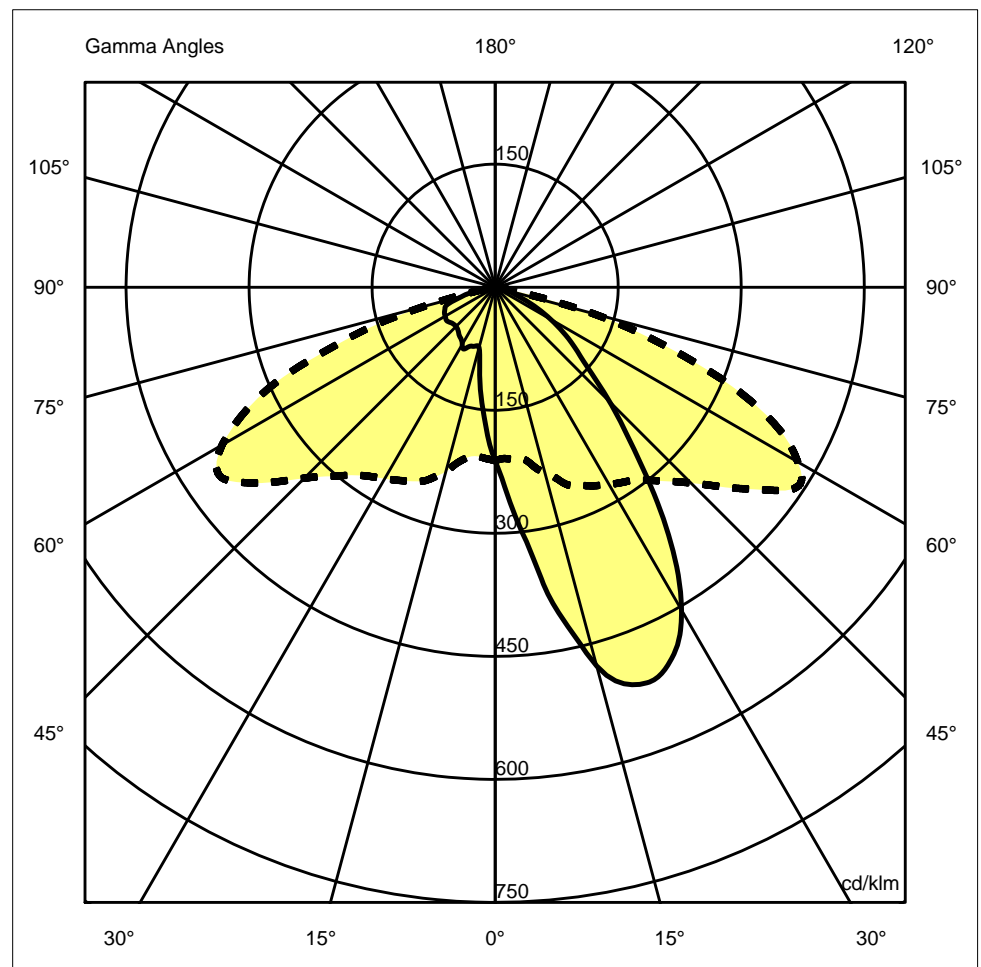
Luminaire Lamps		Flux [lm]		Pow. [W]		Q.ty	
Line	Code	Name	Flux [lm]	Pow. [W]	Q.ty		
	ITLC035740-5050	64 LED 4000K - 141.00 W	14369.97	141.00	1		
C.I.E.	42 79 98 100 100	D DIN 5040	A30				
200mm x 230mm	1.00 E	B NBN	BZ 5 / 2.5 / BZ 4				



C Halfplanes

180.0 - - - - - 0.0
270.0 - - - - - 90.0

ULOR 0.00 %
DLOR 100.00 %
RN 0.00 %



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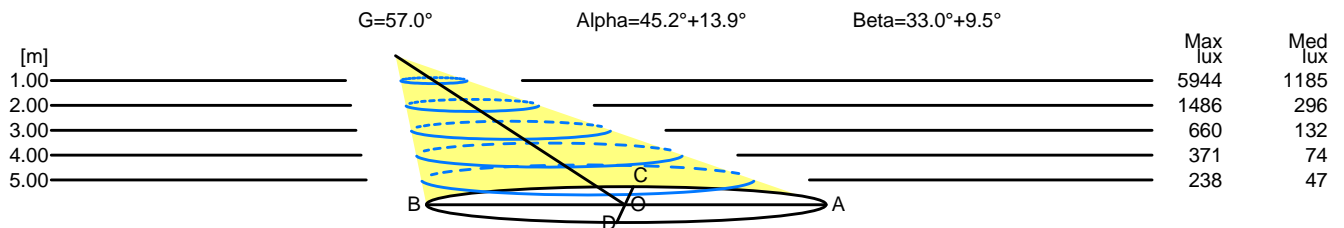
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Width at 50.00 % of Max Intensity

H[m]	1.00	2.00	3.00	4.00	5.00	H[m]	1.00	2.00	3.00	4.00	5.00
OA	1.35	2.70	4.05	5.40	6.75	OC	1.19	2.39	3.58	4.78	5.97
OB	1.33	2.66	4.00	5.33	6.66	OD	0.31	0.62	0.93	1.23	1.54

	Luminous Intensities [cd/klm]									
	0	5	15	25	35	45	55	65	75	85
OA	3041.60	3018.80	3361.70	3837.10	4138.50	4850.30	6206.40	5185.40	1753.60	48.70
OB	3041.60	2985.00	3346.10	3743.60	4029.30	4728.20	5834.90	4585.30	1247.00	24.70
OC	3041.60	4026.70	6868.80	7240.30	5294.50	2836.90	1571.70	714.40	210.40	19.60
OD	3041.60	2249.80	1091.10	1163.90	1070.30	969.00	1028.80	976.80	589.70	53.40



H[m]	D[m]	Max lux	Med lux	Alpha=45.2°+13.9°	G=57.0
1.00	2.68	5944	1185		
2.00	5.37	1486	296		
3.00	8.05	660	132		
4.00	10.73	371	74		
5.00	13.41	238	47		

H[m]	D[m]	Max lux	Med lux	Beta=9.5°+33.0°	G=0.0
1.00	1.50	5944	1185		
2.00	3.01	1486	296		
3.00	4.51	660	132		
4.00	6.01	371	74		
5.00	7.52	238	47		

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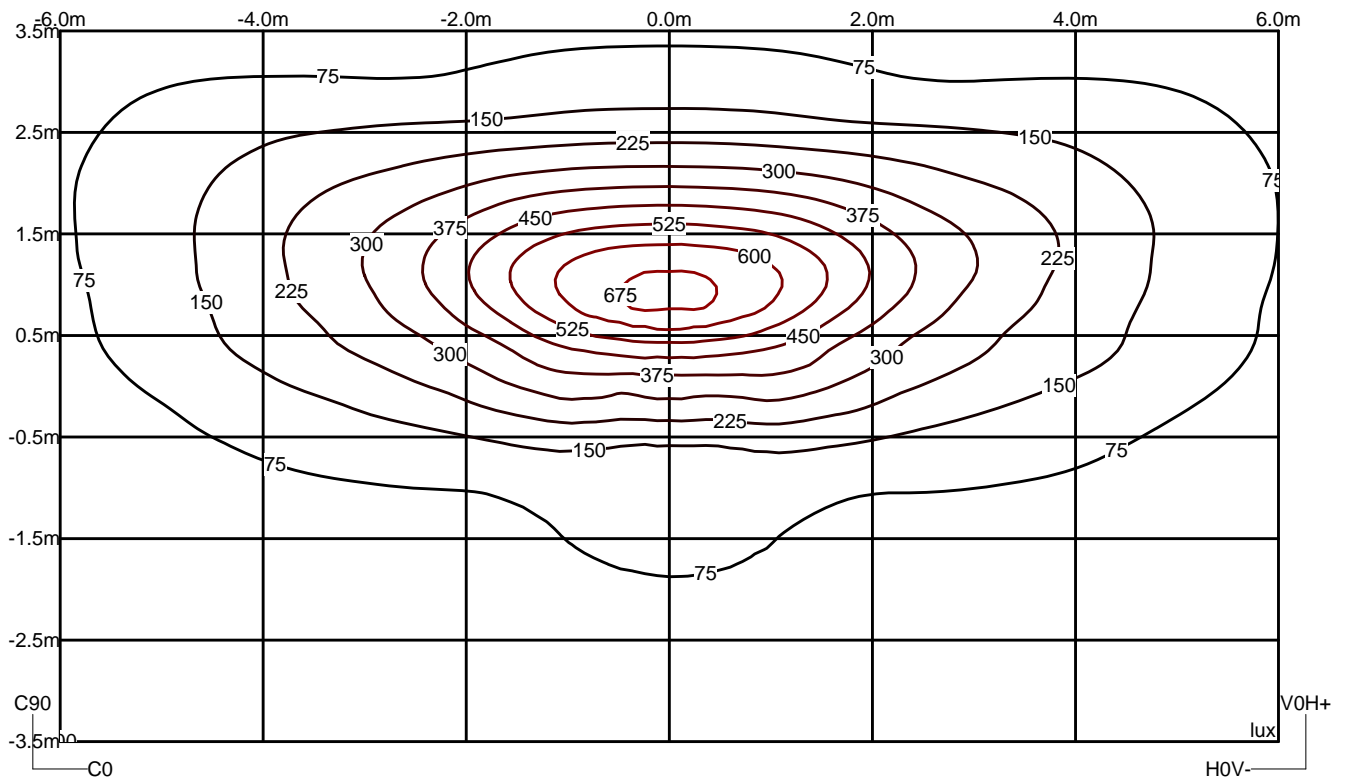
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Isolux (Floor)

Luminaire position X=0.00m Y=0.00m Z=3.00m



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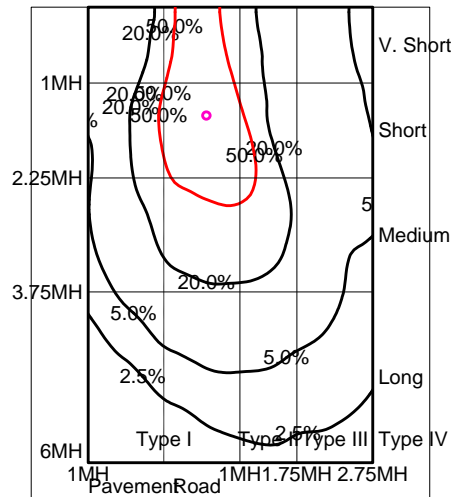
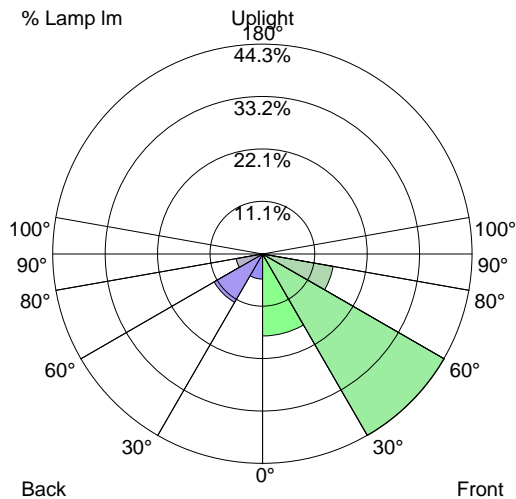
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US ROAD STANDARDS



Luminaire Classification System (LCS)

LCS Zone	Lumens	%Lamp	%Lum
FL	0° -- 30°	2488.5 lm	17.3 %
FM	30° -- 60°	6362.5 lm	44.3 %
FH	60° -- 80°	2174.4 lm	15.1 %
FVH	80° -- 90°	35.8 lm	0.2 %
BL	0° -- 30°	763.3 lm	5.3 %
BM	30° -- 60°	1697.4 lm	11.8 %
BH	60° -- 80°	811.7 lm	5.6 %
BVH	80° -- 90°	36.4 lm	0.3 %
UL	90° -- 100°	0.0 lm	0.0 %
UH	100° -- 180°	0.0 lm	0.0 %
TOTALS	14370.0 lm	100.0 %	100.0 %

BUG B2 U0 G2 Type II Short Asymmetrical

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