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Registered in England: Company Number 3021552  
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# Photometric Report

Job / Report / Date	42 / 10692 / 10692-7a / 2013.06.17
Customer	Encapsulite International Ltd.
Luminaire Range	MT50 IP68
Luminaire catalog No.	MT50 SC 14W
Luminaire description	linear cylindrical luminaire with opal cover data derived from range test series
Lamp description	14W/840 HE Osram Lumilux
Lamp lumen output	1,200 lm
Lamp quantity	1

#### Photometric Report

- Pictures
- Luminaire information
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- Principal Axes Intensities
- Light Output Ratios & CIBSE TM5 Results
- Aspect Factors
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Job / Report / Date

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Customer

Encapsulite International Ltd.

Luminaire Range

MT50 IP68

Luminaire catalog No.

MT50 SC 14W

Luminaire description

linear cylindrical luminaire  
with opal cover

data derived from range test series

Lamp description

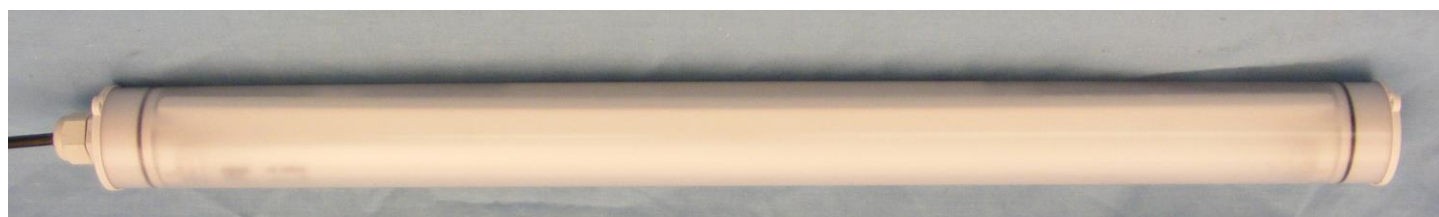
14W/840 HE Osram Lumilux

Lamp lumen output

1,200 lm

Lamp quantity

1



**Helvar**  
www.helvar.com

ELECTRONIC BALLAST EL1x14-35s  
220-240V 0/50-60Hz



T5:14W 0.08-0.06A  $\lambda$  0.96

T5:21,28,35W 0.18-0.09A  $\lambda$  0.98

ta = -20...+50°C

75



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#### Luminaire physical characteristics

##### Overall Dimensions

Length	660mm
Width	50mm
Height	50mm

##### Visible Dimensions when installed

Length	660mm
Width	50mm
Height	50mm

##### Luminous Dimensions

Length	575mm
Width	50mm
Height 0°	25mm
Height 90°	0mm
Height 180°	25mm
Height 270°	0mm

##### Luminous Areas

Base	0.02875m <sup>2</sup>
Sides	0.014375m <sup>2</sup> ( 0°/180° azimuth)
Ends	0m <sup>2</sup> (90°/270° azimuth)

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#### Report Basis

All measurements taken in accordance with EN13032.

Lamp tests were performed with the lamps in a horizontal orientation.

Luminaire tests were performed with the lamps in a horizontal orientation.

The photometric centre of the luminaire was taken as the geometric centre of the lamp.

The photometric nadir was taken to be perpendicular to the front face of the reflector.

The luminaire has been treated as though it has 2 planes of symmetry through the 0°/180° plane and the 90°/270° plane.

The lumen output, light output ratio (LORL) and power consumption of the luminaire were determined at 25°C after 100 hours pre-conditioning.

Lamps used for test were provided by the customer.

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#### Electrical input & Photometric output characteristics

##### Control gear

1 \* Helvar EL1x14-35S

Ballast Voltage Range 220-240V  
Ballast Current Range .06-.08A  
Ballast Power Factor 0.96

Sample	Voltage (V)	Current (mA)	Power Factor	Power (W)	VA	Output (lm)	% of Nominal	Efficacy (lm/W)
Luminaire	230.0	72.6	0.927	15.5	16.7	921	77%	59.5
Lamp	230.0	75.2	0.932	16.1	17.3	1,078	90%	66.9

##### Electrical characteristics at 25°C

Ballast Nominal	230V	69.6mA	0.96PF	15.4W	16.0VA
Lamp Nominal	230V	60.9mA	1.00PF	14.0W	14.0VA
Luminaire	230V	72.6mA	0.93PF	15.5W	16.7VA
Lamp	230V	75.2mA	0.93PF	16.1W	17.3VA

##### Measured Electrical characteristics relative to Ballast Nominal

Luminaire	Current	104%	Power	101%	VA	104%
Lamp	Current	108%	Power	105%	VA	108%

##### Measured Electrical characteristics relative to Lamp Nominal

Luminaire	Current	119%	Power	111%	VA	119%
Lamp	Current	123%	Power	115%	VA	123%

##### Lumen Output figures used in this report (lumens)

Nominal Lamp Output	1,200
Measured Luminaire Output	921
Measured Lamp Output	1,078

##### Measured Lumen Output characteristics relative to Lamp Nominal Total

Luminaire	77%
Lamp	90%

##### Measured luminous efficacy at 25°C

Luminaire	59.5 lm/W
Lamp	66.9 lm/W

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The light output ratio of the luminaire was measured as 0.855 at 25°C.  
This is the ratio of the output of the luminaire to the output of the lamp.

The measured lumen output of the luminaire was 921 lumens at 25°C.  
This figure can be related to the nominal lumen output of the lamp quoted by the manufacturer of 1,200 lumens, to give a nominal light output ratio of 0.768.

The measured lumen output of the lamp was 1,078 lumens at 25°C.  
This figure can be related to the nominal lumen output of the lamp quoted by the manufacturer of 1,200 lumens, to give a nominal BLF of 0.898.

For lighting design calculations:

A light output ratio of 1 should be used in conjunction with the measured lumen output of the luminaire of 921 lumens.

or

The nominal light output ratio of 0.768 should be used in conjunction with the nominal lumen output of the lamp of 1,200 lumens.

or

The measured light output ratio of 0.855 should be used in conjunction with the measured lumen output of the lamp of 1,078 lumens.

or

The measured light output ratio of 0.855 should be used in conjunction with the nominal lumen output of the lamp of 1,200 lumens and the nominal BLF of 0.898.

This report is based on the following parameters:

The Light Output Ratio is the nominal value of 0.768.

The lamp output is the nominal value of 1,200 lumens.

There is 1 lamp in the luminaire.

No measurements relating to the ballast factor of the control gear were made.

The nominal ballast factor represented by the ratio of the measured lumen output of the lamp to the declared lumen output has been incorporated into the nominal Light Output Ratio figure. The resultant nominal LOR allows lighting calculations to be performed using the declared lamp output without having to incorporate a separate BLF calculation to allow for deviation from the nominal output due to thermal and gear effects.

If the measured LOR figure is used, the measured lumen output of the lamp should be used to perform lighting calculations. If the nominal lamp output is used with the measured LOR figure, an allowance should be made for any deviation of the lamp and gear combination from the published lumen output, represented by the nominal BLF.

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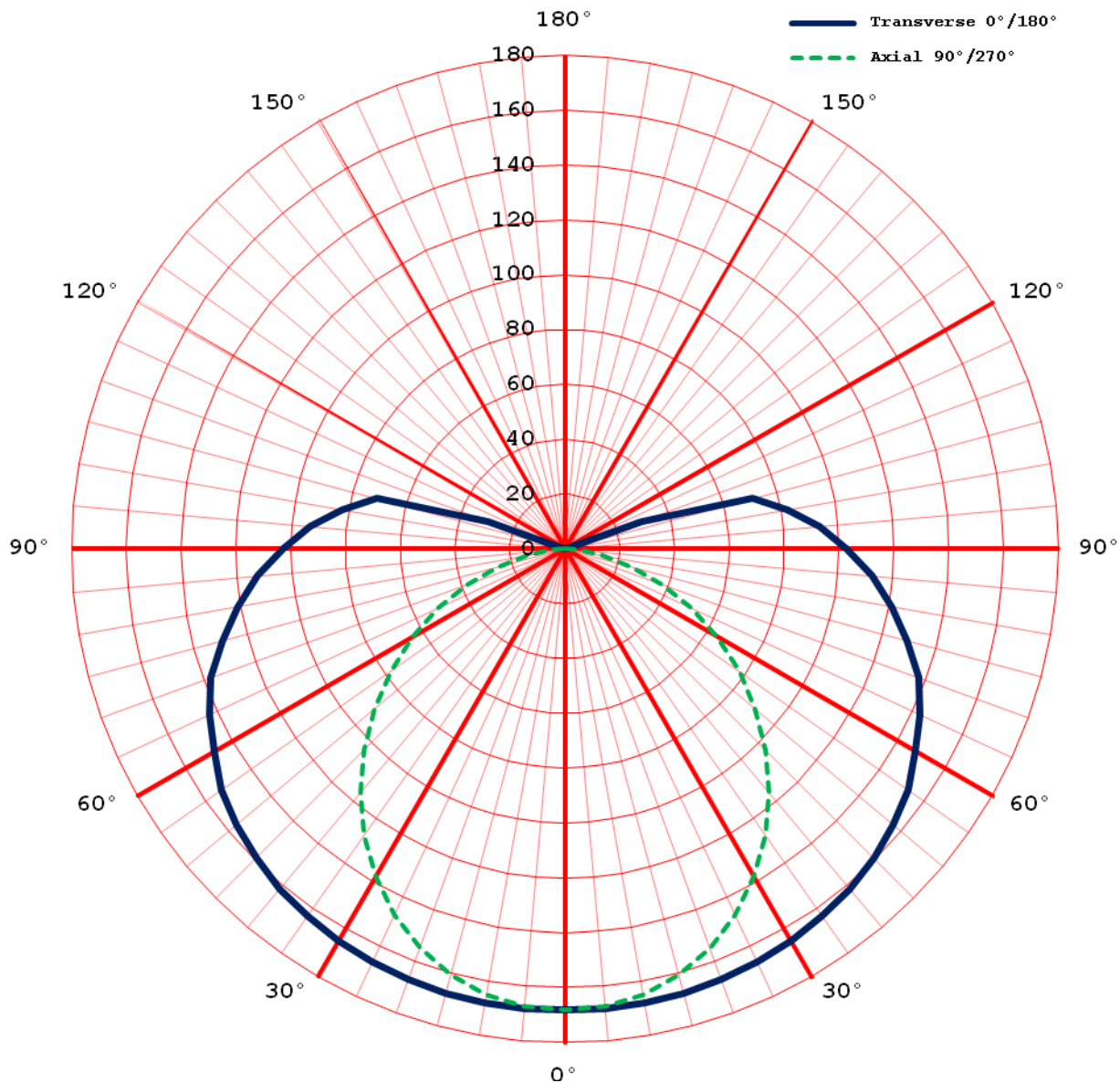
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## Average Principal Axes Luminous Intensities (cd/klm)





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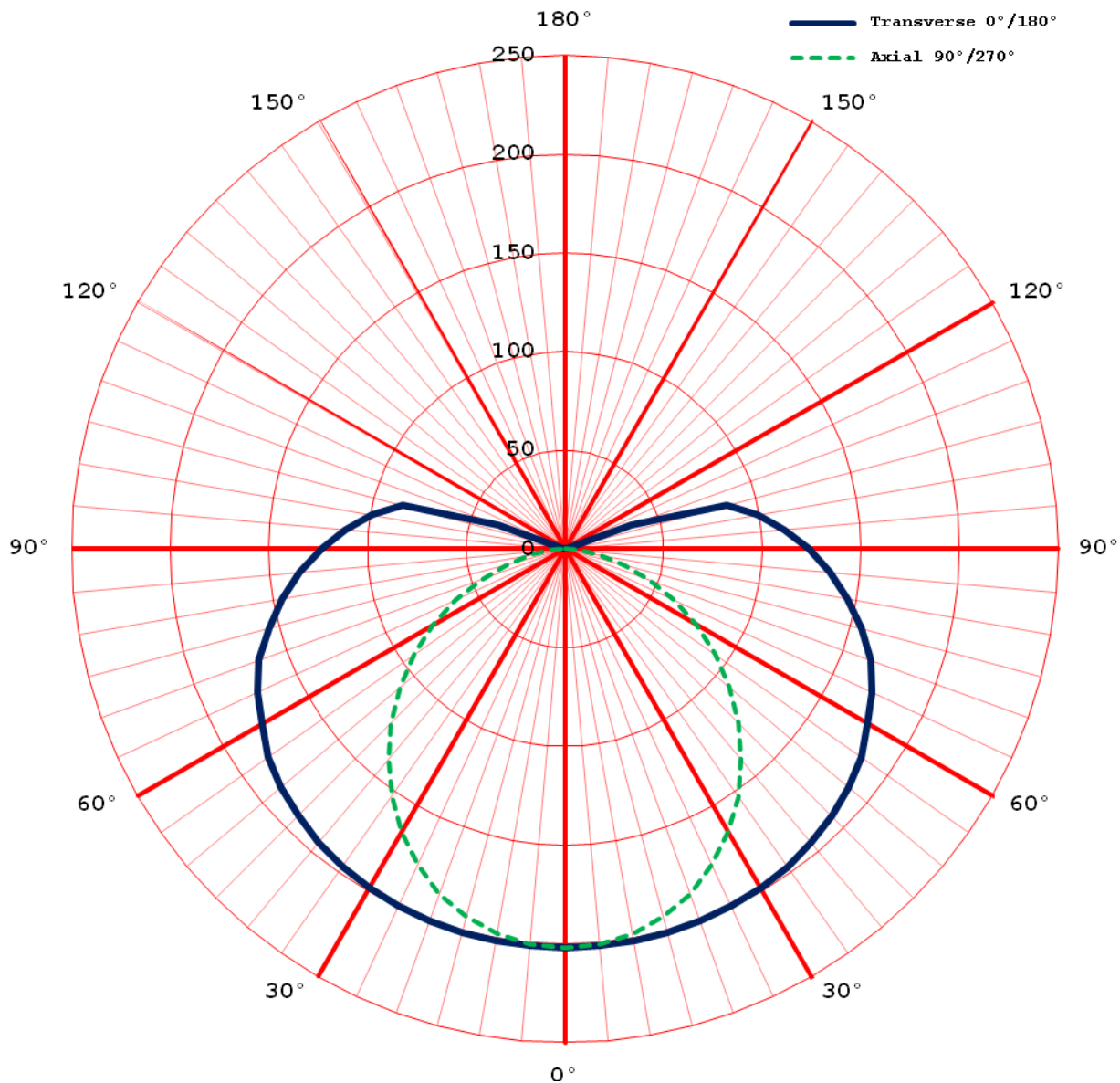
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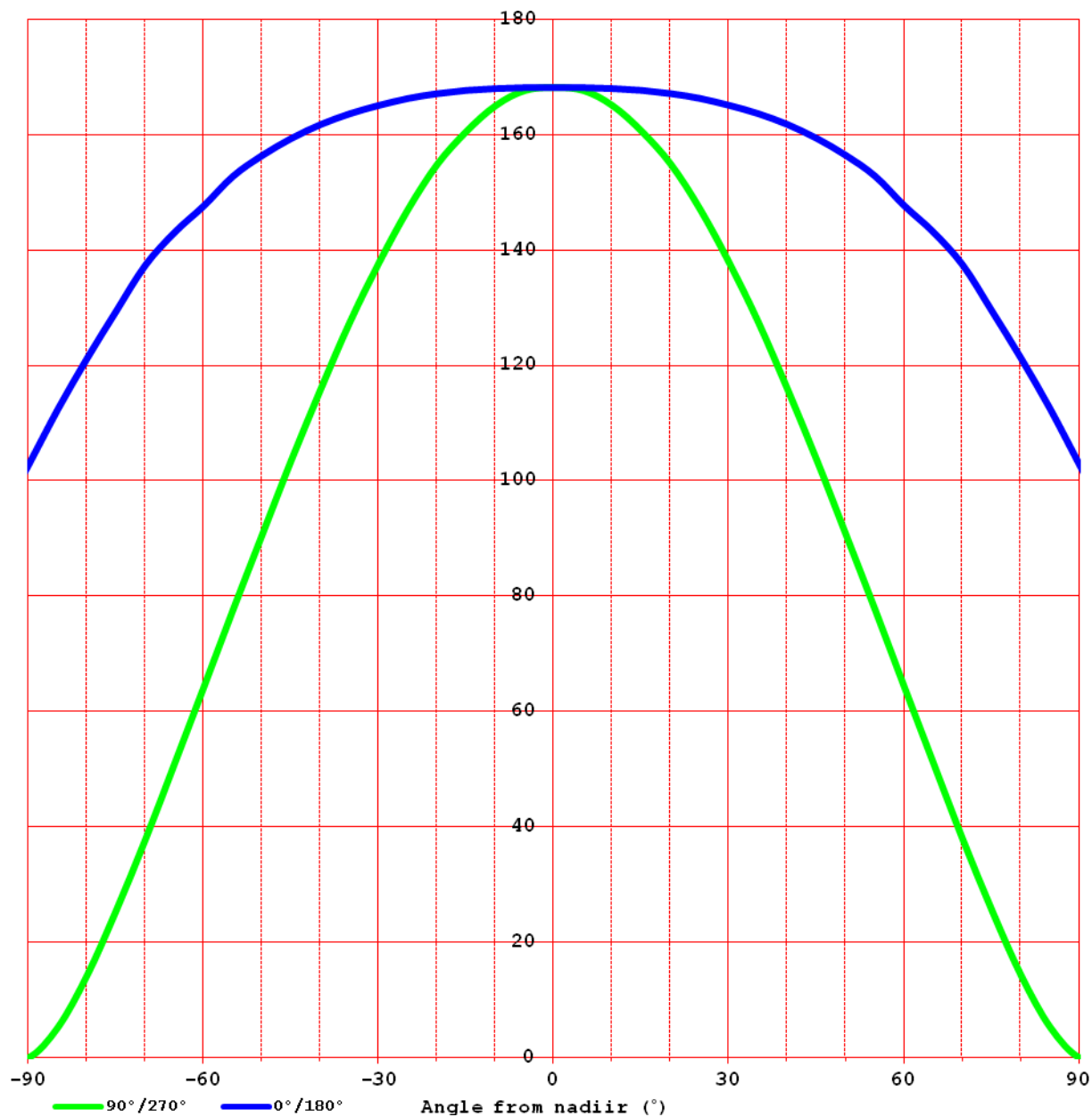
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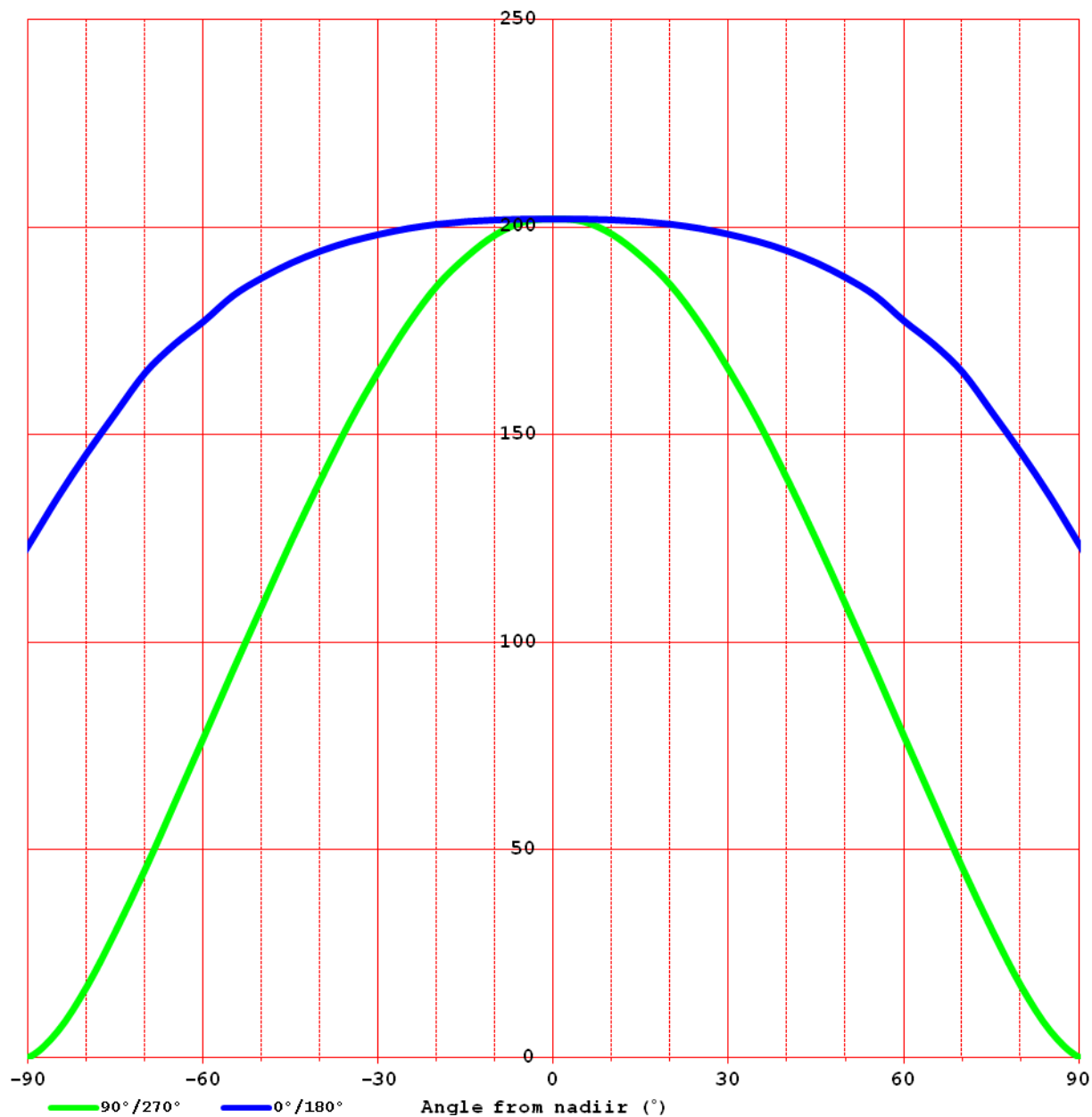
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Average Luminous Intensities (cd/Klm)

Angle	Transverse plane	Axial plane
0°	168.22	168.22
5°	168.22	167.69
10°	168.06	165.08
15°	167.74	160.62
20°	167.18	154.91
25°	166.33	147.11
30°	165.13	137.83
35°	163.69	127.50
40°	161.81	115.88
45°	159.41	103.62
50°	156.44	90.68
55°	152.84	77.65
60°	147.71	64.27
65°	143.11	51.04
70°	137.42	37.86
75°	129.45	25.56
80°	121.25	14.27
85°	112.44	5.26
90°	102.79	0.00
95°	93.22	0.00
100°	82.72	0.00
105°	70.99	0.00
110°	29.72	0.00
115°	0.60	0.00
120°	0.48	0.04
125°	0.00	0.00
130°	0.00	0.00
135°	0.00	0.00
140°	0.00	0.00
145°	0.00	0.00
150°	0.00	0.00
155°	0.00	0.00
160°	0.00	0.00
165°	0.00	0.00
170°	0.00	0.00
175°	0.00	0.00
180°	0.00	0.00

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Average Luminous Intensities (cd)

Angle	Transverse plane	Axial plane
0°	201.86	201.86
5°	201.86	201.23
10°	201.67	198.10
15°	201.28	192.74
20°	200.61	185.89
25°	199.60	176.53
30°	198.16	165.39
35°	196.43	153.00
40°	194.17	139.06
45°	191.29	124.34
50°	187.73	108.81
55°	183.41	93.18
60°	177.26	77.12
65°	171.73	61.25
70°	164.91	45.43
75°	155.34	30.67
80°	145.49	17.12
85°	134.92	6.32
90°	123.34	0.00
95°	111.86	0.00
100°	99.27	0.00
105°	85.19	0.00
110°	35.66	0.00
115°	0.72	0.00
120°	0.58	0.05
125°	0.00	0.00
130°	0.00	0.00
135°	0.00	0.00
140°	0.00	0.00
145°	0.00	0.00
150°	0.00	0.00
155°	0.00	0.00
160°	0.00	0.00
165°	0.00	0.00
170°	0.00	0.00
175°	0.00	0.00
180°	0.00	0.00

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Light Output Ratios Up 0.08  
Down 0.68  
Total 0.77

Spacing to Height Ratios SHR NOM 1.75  
SHR MAX 1.81  
SHR MAX TRANS 2.34

Utilisation Factors UF(F) Standard Presentation SHR NOM = 1.75

Room Reflectances			Room Index									
C	W	F	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00	
.70	.50	.20	N/A	.45	.50	.54	.60	.63	.66	.70	.73	
	.30		N/A	.39	.44	.48	.54	.58	.61	.66	.69	
	.10		N/A	.34	.39	.43	.49	.54	.57	.62	.66	
.50	.50	.20	N/A	.42	.47	.51	.56	.59	.62	.65	.68	
	.30		N/A	.37	.42	.46	.51	.55	.58	.62	.65	
	.10		N/A	.33	.38	.41	.47	.51	.54	.59	.62	
.30	.50	.20	N/A	.40	.44	.48	.52	.55	.58	.61	.63	
	.30		N/A	.35	.40	.43	.48	.52	.54	.58	.61	
	.10		N/A	.32	.36	.40	.45	.49	.52	.56	.59	
.00	.00	.00	N/A	.29	.33	.36	.41	.44	.47	.51	.53	
BZ Class			N/A	6	6	6	6	6	6	6	6	
CIE Flux code			35 / 63 / 84 / 89 / 77									
CIE Room Index			0.60	0.80	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00 10.0 20.0
CIE DRR			0.23	0.30	0.36	0.42	0.48	0.56	0.62	0.66	0.72	0.75 0.82 0.86
CIE class			7 / 7 / 7 / 7 / 7 / 7 / 7 / 7 / 7 / 8 / 8 / 10									
Flux Fraction Ratio			0.12									
DIN Class			0.77 B									

Calculated in accordance with CIBSE Technical Memorandum No. 5 1980

In accordance with TM5, this UF table is valid for values of SHR from 0.5 below SHR NOM to 0.5 above SHR NOM. SHR MAX is a separate limitation.

Reflectances given in the UF table are the effective reflectances of the ceiling cavity, walls and floor cavity, and must be determined for the actual room in which the luminaire will be used.

UF(F), UF(W), and UF(C) for 0% reflectance of the room surfaces are equivalent to DF(F), DF(W) and DF(C) respectively.

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Lamp description

14W/840 HE Osram Lumilux

Lamp lumen output

1,200 lm

Lamp quantity

1

Angle

Aspect Factors

	Parallel plane	Perpendicular plane
0°	0.000	0.000
5°	0.087	0.004
10°	0.173	0.015
15°	0.255	0.033
20°	0.333	0.058
25°	0.405	0.088
30°	0.471	0.122
35°	0.529	0.159
40°	0.579	0.197
45°	0.621	0.236
50°	0.655	0.273
55°	0.682	0.308
60°	0.701	0.339
65°	0.715	0.365
70°	0.724	0.386
75°	0.729	0.402
80°	0.731	0.412
85°	0.732	0.417
90°	0.732	0.419



















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## Zonal Flux Calculations

Angles	Individual	Cumulative
0° - 5°	0.5%	0.5%
5° - 10°	1.6%	2.1%
10° - 15°	2.6%	4.6%
15° - 20°	3.5%	8.1%
20° - 25°	4.3%	12.5%
25° - 30°	5.1%	17.6%
30° - 35°	5.7%	23.3%
35° - 40°	6.2%	29.5%
40° - 45°	6.5%	36.0%
45° - 50°	6.8%	42.8%
50° - 55°	6.8%	49.6%
55° - 60°	6.8%	56.4%
60° - 65°	6.6%	62.9%
65° - 70°	6.2%	69.2%
70° - 75°	5.8%	75.0%
75° - 80°	5.3%	80.3%
80° - 85°	4.8%	85.1%
85° - 90°	4.2%	89.3%
90° - 95°	3.7%	93.0%
95° - 100°	3.1%	96.2%
100° - 105°	2.4%	98.5%
105° - 110°	1.2%	99.7%
110° - 115°	0.2%	100.0%
115° - 120°	0.0%	100.0%
120° - 125°	0.0%	100.0%
125° - 130°	0.0%	100.0%
130° - 135°	0.0%	100.0%
135° - 140°	0.0%	100.0%
140° - 145°	0.0%	100.0%
145° - 150°	0.0%	100.0%
150° - 155°	0.0%	100.0%
155° - 160°	0.0%	100.0%
160° - 165°	0.0%	100.0%
165° - 170°	0.0%	100.0%
170° - 175°	0.0%	100.0%
175° - 180°	0.0%	100.0%



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Averaged Luminance Values (cd/m<sup>2</sup>)

Elevation(°)	Azimuth(°)						
	0.0°	30.0°	60.0°	90.0°	120.0°	150.0°	180.0°
45°	6273	6036	5592	6116	5592	6036	6273
50°	6366	6059	5426	5888	5426	6059	6366
55°	6489	6108	5275	5651	5275	6108	6489
60°	6608	6167	5131	5365	5131	6167	6608
65°	6821	6279	4987	5041	4987	6279	6821
70°	7065	6437	4895	4620	4895	6437	7065
75°	7284	6625	4870	4122	4870	6625	7284
80°	7598	6874	4885	3429	4885	6874	7598
85°	8019	7230	5059	2521	5059	7230	8019
	180.0°	210.0°	240.0°	270.0°	300.0°	330.0°	0.0°
45°	6273	6036	5592	6116	5592	6036	6273
50°	6366	6059	5426	5888	5426	6059	6366
55°	6489	6108	5275	5651	5275	6108	6489
60°	6608	6167	5131	5365	5131	6167	6608
65°	6821	6279	4987	5041	4987	6279	6821
70°	7065	6437	4895	4620	4895	6437	7065
75°	7284	6625	4870	4122	4870	6625	7284
80°	7598	6874	4885	3429	4885	6874	7598
85°	8019	7230	5059	2521	5059	7230	8019

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Non averaged Luminance Values (cd/m<sup>2</sup>)

Elevation(°)

Azimuth(°)

	0.0°	30.0°	60.0°	90.0°	120.0°	150.0°	180.0°
45°	6225	6030	5638	6189	5633	6090	6321
50°	6309	6053	5483	5956	5484	6141	6422
55°	6430	6098	5340	5748	5329	6188	6548
60°	6510	6174	5203	5463	5179	6259	6706
65°	6748	6246	5062	5150	5053	6372	6893
70°	7007	6444	4983	4722	4951	6529	7123
75°	7190	6648	4950	4250	4963	6720	7378
80°	7490	6897	4998	3620	4936	6987	7706
85°	7889	7265	5206	2724	5102	7359	8148
	180.0°	210.0°	240.0°	270.0°	300.0°	330.0°	0.0°
45°	6321	6055	5588	6043	5508	5969	6225
50°	6422	6080	5418	5820	5320	5963	6309
55°	6548	6134	5268	5554	5163	6011	6430
60°	6706	6179	5129	5267	5013	6054	6510
65°	6893	6338	5000	4932	4834	6161	6748
70°	7123	6487	4911	4519	4735	6288	7007
75°	7378	6691	4886	3994	4683	6443	7190
80°	7706	6959	4912	3239	4693	6652	7490
85°	8148	7293	5116	2318	4813	7003	7889

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Averaged Luminance Values (cd/m<sup>2</sup>/klm)

Elevation(°)

Azimuth(°)

	0.0°	30.0°	60.0°	90.0°	120.0°	150.0°	180.0°
45°	5227	5030	4660	5097	4660	5030	5227
50°	5305	5049	4522	4907	4522	5049	5305
55°	5407	5090	4396	4709	4396	5090	5407
60°	5507	5139	4276	4471	4276	5139	5507
65°	5684	5233	4156	4201	4156	5233	5684
70°	5888	5364	4079	3850	4079	5364	5888
75°	6070	5521	4059	3435	4059	5521	6070
80°	6332	5728	4070	2858	4070	5728	6332
85°	6682	6025	4216	2101	4216	6025	6682
	180.0°	210.0°	240.0°	270.0°	300.0°	330.0°	0.0°
45°	5227	5030	4660	5097	4660	5030	5227
50°	5305	5049	4522	4907	4522	5049	5305
55°	5407	5090	4396	4709	4396	5090	5407
60°	5507	5139	4276	4471	4276	5139	5507
65°	5684	5233	4156	4201	4156	5233	5684
70°	5888	5364	4079	3850	4079	5364	5888
75°	6070	5521	4059	3435	4059	5521	6070
80°	6332	5728	4070	2858	4070	5728	6332
85°	6682	6025	4216	2101	4216	6025	6682

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Customer

Encapsulite International Ltd.

Luminaire Range

MT50 IP68

Luminaire catalog No.

MT50 SC 14W

Luminaire description

linear cylindrical luminaire  
with opal cover

data derived from range test series

Lamp description

14W/840 HE Osram Lumilux

Lamp lumen output

1,200 lm

Lamp quantity

1

Non averaged Luminance Values (cd/m<sup>2</sup>/klm)

Elevation(°)

Azimuth(°)

	0.0°	30.0°	60.0°	90.0°	120.0°	150.0°	180.0°
45°	5188	5025	4698	5158	4694	5075	5267
50°	5258	5044	4570	4963	4570	5117	5351
55°	5358	5082	4450	4790	4441	5156	5456
60°	5425	5145	4336	4553	4316	5216	5589
65°	5623	5205	4219	4292	4211	5310	5744
70°	5839	5370	4152	3935	4126	5441	5936
75°	5992	5540	4125	3542	4136	5600	6148
80°	6242	5748	4165	3017	4113	5822	6422
85°	6574	6054	4338	2270	4252	6133	6790
	180.0°	210.0°	240.0°	270.0°	300.0°	330.0°	0.0°
45°	5267	5046	4657	5036	4590	4975	5188
50°	5351	5066	4515	4850	4433	4969	5258
55°	5456	5112	4390	4628	4302	5009	5358
60°	5589	5149	4274	4389	4178	5045	5425
65°	5744	5281	4166	4110	4028	5135	5623
70°	5936	5406	4092	3766	3946	5240	5839
75°	6148	5576	4072	3329	3902	5369	5992
80°	6422	5799	4093	2699	3911	5543	6242
85°	6790	6077	4264	1932	4011	5836	6574

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Customer Encapsulite International Ltd.  
Luminaire Range MT50 IP68  
Luminaire catalog No. MT50 SC 14W  
Luminaire description linear cylindrical luminaire  
with opal cover  
data derived from range test series  
Lamp description 14W/840 HE Osram Lumilux  
Lamp lumen output 1,200 lm  
Lamp quantity 1

Maximum Non averaged Luminance Values (cd/m<sup>2</sup>)

Elevation(°)

-----  
Maximum Azimuth Angle  
-----

45°	6321	180°
50°	6422	180°
55°	6548	180°
60°	6706	180°
65°	6893	180°
70°	7123	180°
75°	7378	180°
80°	7706	180°
85°	8148	180°

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Customer Encapsulite International Ltd.  
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Luminaire catalog No. MT50 SC 14W  
Luminaire description linear cylindrical luminaire  
with opal cover  
data derived from range test series  
Lamp description 14W/840 HE Osram Lumilux  
Lamp lumen output 1,200 lm  
Lamp quantity 1

VDT Luminance Information

BS EN 12464 (2002) / CIBSE LG7 (2005) / CIBSE LG3 (2001)

Permitted Usage according to Screen Type and Luminance Limit Angle	Limiting luminance (cd/m <sup>2</sup> )	Use permitted at Luminance Limit Angle(°)	
		55°	65°
Screen Type III (No screen treatment) used with some negative polarity software	200	NO	NO
Screen Type I and II (Good or moderate screen treatment) used with some negative polarity software	500	NO	NO
Screen Type III (No screen treatment) used with only positive polarity software	1000	NO	NO
Screen Type I and II (Good or moderate screen treatment) used with only positive polarity software	1500	NO	NO

VDT Luminance Information

BS EN 12464 (2011) / CIBSE LG7 (2012)

Permitted Usage according to Screen Type and Luminance Limit Angle	Limiting luminance (cd/m <sup>2</sup> )	Use permitted at Luminance Limit Angle(°)	
		55°	65°
Medium luminance screen ( L <= 200 cdm <sup>2</sup> ) Case B negative polarity and/or higher requirements	1000	-	NO
Medium luminance screen ( L <= 200 cdm <sup>2</sup> ) Case A positive polarity and normal requirements	1500	-	NO
High luminance screen ( L > 200 cd/m <sup>2</sup> ) Case B negative polarity and/or higher requirements	1500	-	NO
High luminance screen ( L > 200 cd/m <sup>2</sup> ) Case A positive polarity and normal requirements	3000	-	NO

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Customer

Encapsulite International Ltd.

Luminaire Range

MT50 IP68

Luminaire catalog No.

MT50 SC 14W

Luminaire description

linear cylindrical luminaire  
with opal cover

data derived from range test series

Lamp description

14W/840 HE Osram Lumilux

Lamp lumen output

1,200 lm

Lamp quantity

1

## Uncorrected Glare Indices

Reflectance of

Ceiling	.70	.70	.50	.50	.30	.70	.70	.50	.50	.30
Wall	.50	.30	.50	.30	.30	.50	.30	.50	.30	.30
Floor Cavity	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20

Room dimension

Viewed crosswise

Viewed endwise

X Y

0°

90°

2H 2H	17.5	19.4	18.1	20.0	20.8	14.0	15.9	14.6	16.6	17.3
3H	20.8	22.6	21.5	23.3	24.0	16.0	17.7	16.6	18.4	19.2
4H	22.5	24.1	23.1	24.8	25.6	16.7	18.4	17.3	19.1	19.8
6H	24.2	25.8	24.9	26.5	27.3	17.2	18.8	17.9	19.5	20.3
8H	25.0	26.6	25.7	27.3	28.1	17.4	18.9	18.1	19.6	20.4
12H	25.9	27.5	26.7	28.2	29.0	17.4	18.9	18.1	19.6	20.5
4H 2H	18.4	20.1	19.0	20.7	21.5	16.0	17.7	16.7	18.4	19.1
3H	22.0	23.5	22.8	24.3	25.1	18.2	19.7	18.9	20.5	21.3
4H	24.0	25.3	24.7	26.1	26.9	19.2	20.6	20.0	21.3	22.2
6H	25.9	27.1	26.7	27.9	28.7	19.9	21.2	20.7	21.9	22.8
8H	26.9	28.1	27.7	28.9	29.7	20.2	21.4	21.0	22.1	23.0
12H	28.0	29.1	28.8	29.9	30.8	20.4	21.5	21.2	22.2	23.1
8H 4H	24.6	25.8	25.4	26.5	27.4	21.2	22.4	22.0	23.2	24.0
6H	26.8	27.8	27.6	28.6	29.5	22.2	23.2	23.0	24.0	24.9
8H	28.1	29.0	29.0	29.9	30.8	22.7	23.6	23.5	24.5	25.4
12H	29.5	30.2	30.3	31.1	32.0	23.1	23.9	23.9	24.7	25.6
12H 4H	24.7	25.8	25.5	26.6	27.5	22.1	23.2	22.9	24.0	24.9
6H	27.1	28.0	27.9	28.9	29.7	23.4	24.3	24.2	25.1	26.0
8H	28.5	29.3	29.3	30.1	31.0	24.0	24.8	24.8	25.6	26.5

Calculated in accordance with CIBSE Technical Memorandum No. 10 1985

Customer

Encapsulite International Ltd.

Luminaire Range

MT50 IP68

Luminaire catalog No.

MT50 SC 14W

Luminaire description

linear cylindrical luminaire

with opal cover

data derived from range test series

Lamp description

14W/840 HE Osram Lumilux

Lamp lumen output

1,200 lm

Lamp quantity

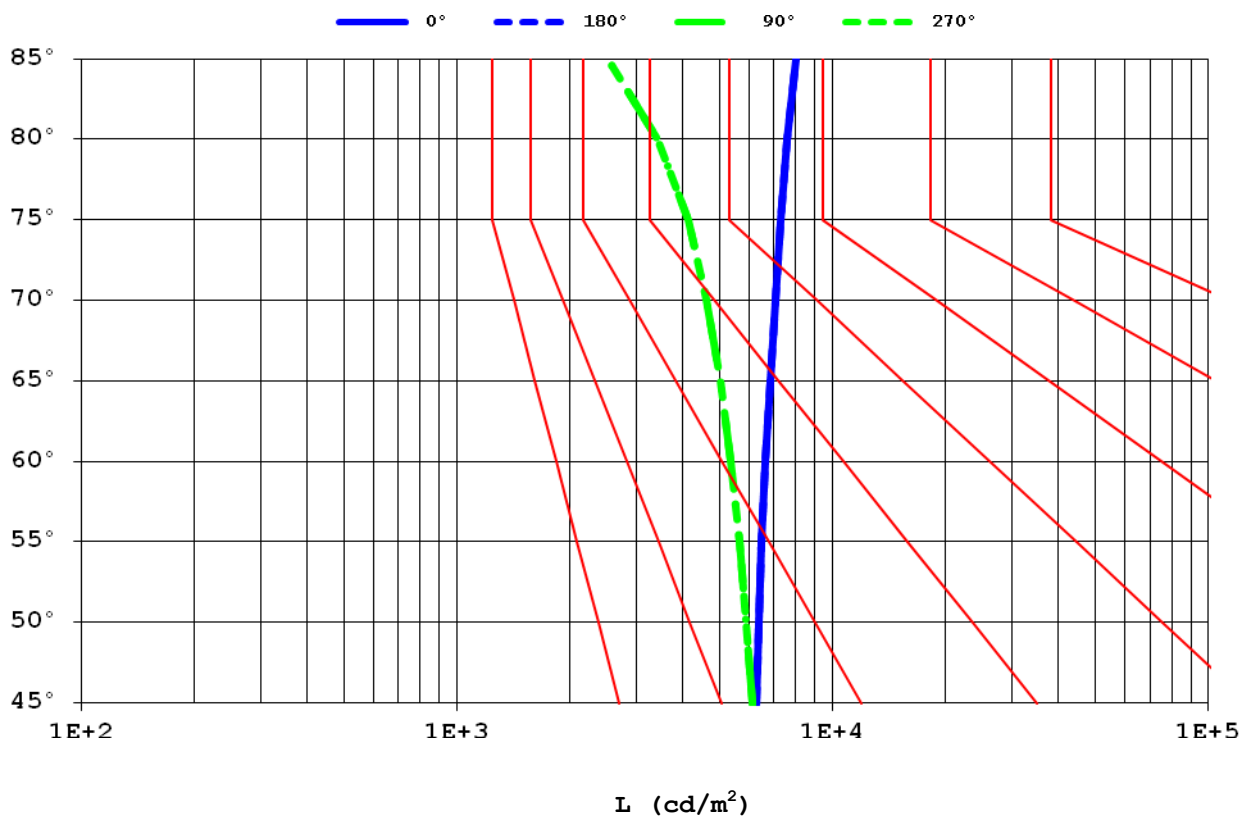
1

## CIE Glare Limiting (Soellnor) Diagram

Glare Quality  
Rating Class

Service values of illuminance

1.15	A	2000	1000	500	<300				
1.50	B		2000	1000	500	<300			
1.85	C			2000	1000	500	<300		
2.20	D				2000	1000	500	<300	
2.55	E					2000	1000	500	<300
		a	b	c	d	e	f	g	h





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Customer	Encapsulite International Ltd.
Luminaire Range	MT50 IP68
Luminaire catalog No.	MT50 SC 14W
Luminaire description	linear cylindrical luminaire with opal cover data derived from range test series
Lamp description	14W/840 HE Osram Lumilux
Lamp lumen output	1,200 lm
Lamp quantity	1

#### Comments

It is recommended that point to point calculations are used when designing lighting schemes in order to accurately predict uniformity. Data files in various formats are available to allow easy transfer of this data to a computer. Please enquire for details.

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Customer Encapsulite International Ltd.  
Luminaire Range MT50 IP68  
Luminaire catalog No. MT50 SC 14W  
Luminaire description linear cylindrical luminaire  
with opal cover  
data derived from range test series  
Lamp description 14W/840 HE Osram Lumilux  
Lamp lumen output 1,200 lm  
Lamp quantity 1

#### Quick Design Table

Based on: reflectances of Ceiling = 0.5  
Wall = 0.5  
Floor = 0.2  
Room Index = 2.00  
lamp output = 1200 lumens  
ballast lumen factor = 1.00

To achieve an Illuminance of 100 lux

Surface Area (m <sup>2</sup> )	20	30	40	50	80	100	200	300	500
No. of luminaires	3.0	4.5	6.0	7.5	12.0	15.0	29.9	44.9	74.8