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Photometric Report

Job / Report / Date 42 / 10692 / 10692-12a / 2013.06.17

Customer	Encapsulite International Ltd.
Luminaire Range	MT70 IP68
Luminaire catalog No.	MT70 36W
Luminaire description	linear cylindrical luminaire with clear cover data derived from range test series
Lamp description	36W/840 FT8 GE Polulux XLr
Lamp lumen output	3,350 lm
Lamp quantity	1

Photometric Report

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

42 / 10692 / 10692-12a / 2013.06.17

Customer

Encapsulite International Ltd.

Luminaire Range

MT70 IP68

Luminaire catalog No.

MT70 36W

Luminaire description

linear cylindrical luminaire
with clear cover

data derived from range test series

Lamp description

36W/840 FT8 GE Polulux XLr

Lamp lumen output

3,350 lm

Lamp quantity

1



Helvar
www.helvar.com

ELECTRONIC BALLAST EL1x36/40/18s
220-240V 0/50-60Hz

tc

T8: 36W 0.16-0.15A λ 0.98

O

TC-L: 40W 0.20-0.18A λ 0.98

TC-L: 18W 0.08A λ 0.98

75 ° C

ta = -20...+50°C



Polylux XLr

FT8 36W 840



Made in U.S.A. Recyclable

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Luminaire physical characteristics

Overall Dimensions

Length	1312mm
Width	70mm
Height	70mm

Visible Dimensions when installed

Length	1312mm
Width	70mm
Height	70mm

Luminous Dimensions

Length	1250mm
Width	70mm
Height 0°	35mm
Height 90°	0mm
Height 180°	35mm
Height 270°	0mm

Luminous Areas

Base	0.0875m ²
Sides	0.04375m ² (0°/180° azimuth)
Ends	0m ² (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 EL1x36/40/18S

Ballast Voltage Range 220-240V
Ballast Current Range 0.15-0.16A
Ballast Power Factor 0.98

Sample	Voltage (V)	Current (mA)	Power Factor	Power (W)	VA	Output (lm)	% of Nominal	Efficacy (lm/W)
Luminaire	230.0	148.7	0.987	33.8	34.2	2,461	73%	72.9
Lamp	230.0	153.2	0.987	34.8	35.2	2,923	87%	84.0

Electrical characteristics at 25°C

Ballast Nominal	230V	154.8mA	0.98PF	34.9W	35.6VA
Lamp Nominal	230V	156.5mA	1.00PF	36.0W	36.0VA
Luminaire	230V	148.7mA	0.99PF	33.8W	34.2VA
Lamp	230V	153.2mA	0.99PF	34.8W	35.2VA

Measured Electrical characteristics relative to Ballast Nominal

Luminaire	Current	96%	Power	97%	VA	96%
Lamp	Current	99%	Power	100%	VA	99%

Measured Electrical characteristics relative to Lamp Nominal

Luminaire	Current	95%	Power	94%	VA	95%
Lamp	Current	98%	Power	97%	VA	98%

Lumen Output figures used in this report (lumens)

Nominal Lamp Output	3,350
Measured Luminaire Output	2,461
Measured Lamp Output	2,923

Measured Lumen Output characteristics relative to Lamp Nominal Total

Luminaire	73%
Lamp	87%

Measured luminous efficacy at 25°C

Luminaire	72.9 lm/W
Lamp	84.0 lm/W

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The light output ratio of the luminaire was measured as 0.842 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 2,461 lumens at 25°C.
This figure can be related to the nominal lumen output of the lamp quoted by the manufacturer of 3,350 lumens, to give a nominal light output ratio of 0.734.

The measured lumen output of the lamp was 2,923 lumens at 25°C.
This figure can be related to the nominal lumen output of the lamp quoted by the manufacturer of 3,350 lumens, to give a nominal BLF of 0.872.

For lighting design calculations:

A light output ratio of 1 should be used in conjunction with the measured lumen output of the luminaire of 2,461 lumens.

or

The nominal light output ratio of 0.734 should be used in conjunction with the nominal lumen output of the lamp of 3,350 lumens.

or

The measured light output ratio of 0.842 should be used in conjunction with the measured lumen output of the lamp of 2,923 lumens.

or

The measured light output ratio of 0.842 should be used in conjunction with the nominal lumen output of the lamp of 3,350 lumens and the nominal BLF of 0.872.

This report is based on the following parameters:

The Light Output Ratio is the nominal value of 0.734.

The lamp output is the nominal value of 3,350 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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36W/840 FT8 GE Polulux XLr

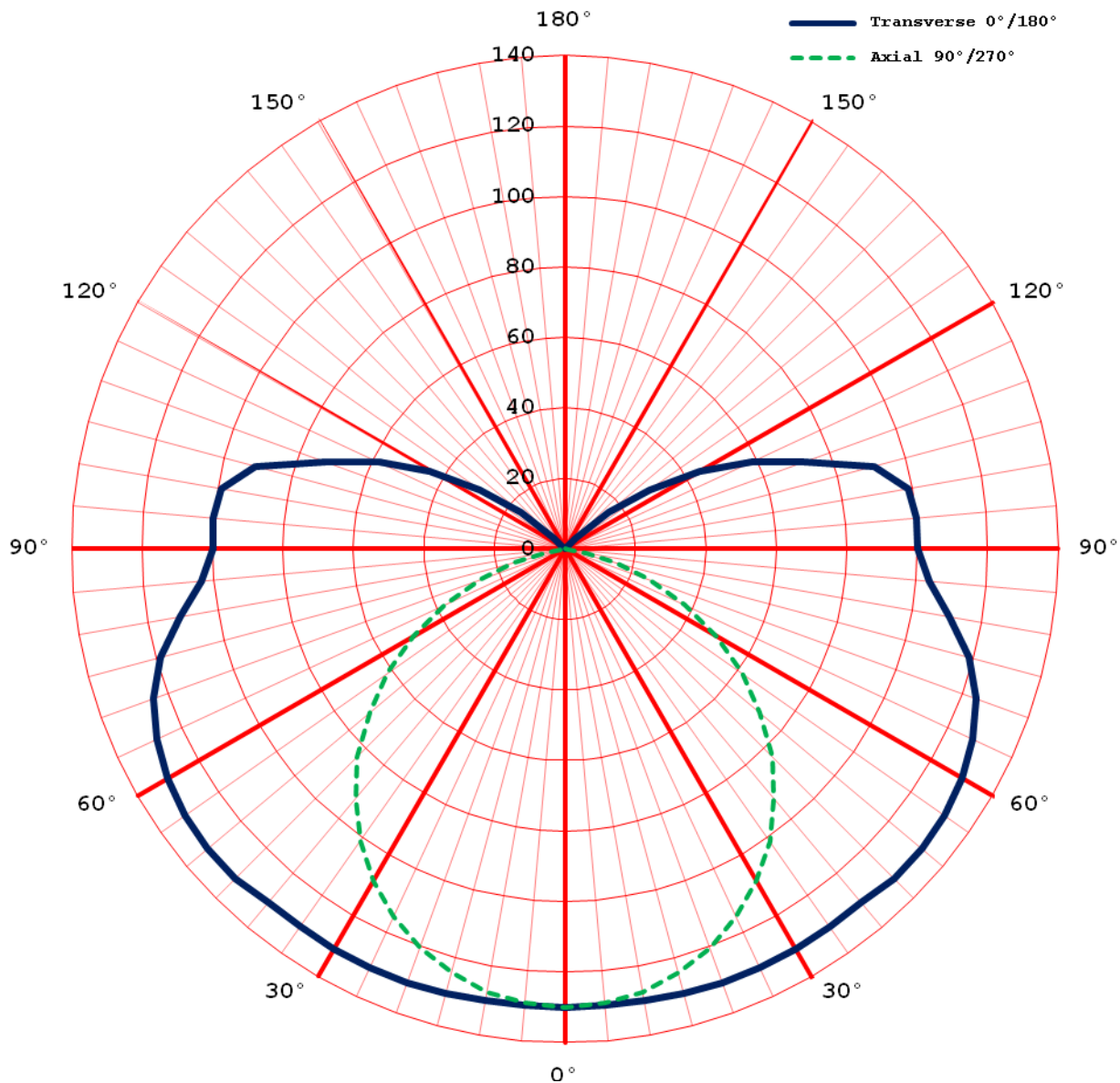
Lamp lumen output

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Lamp quantity

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Average Principal Axes Luminous Intensities (cd/klm)



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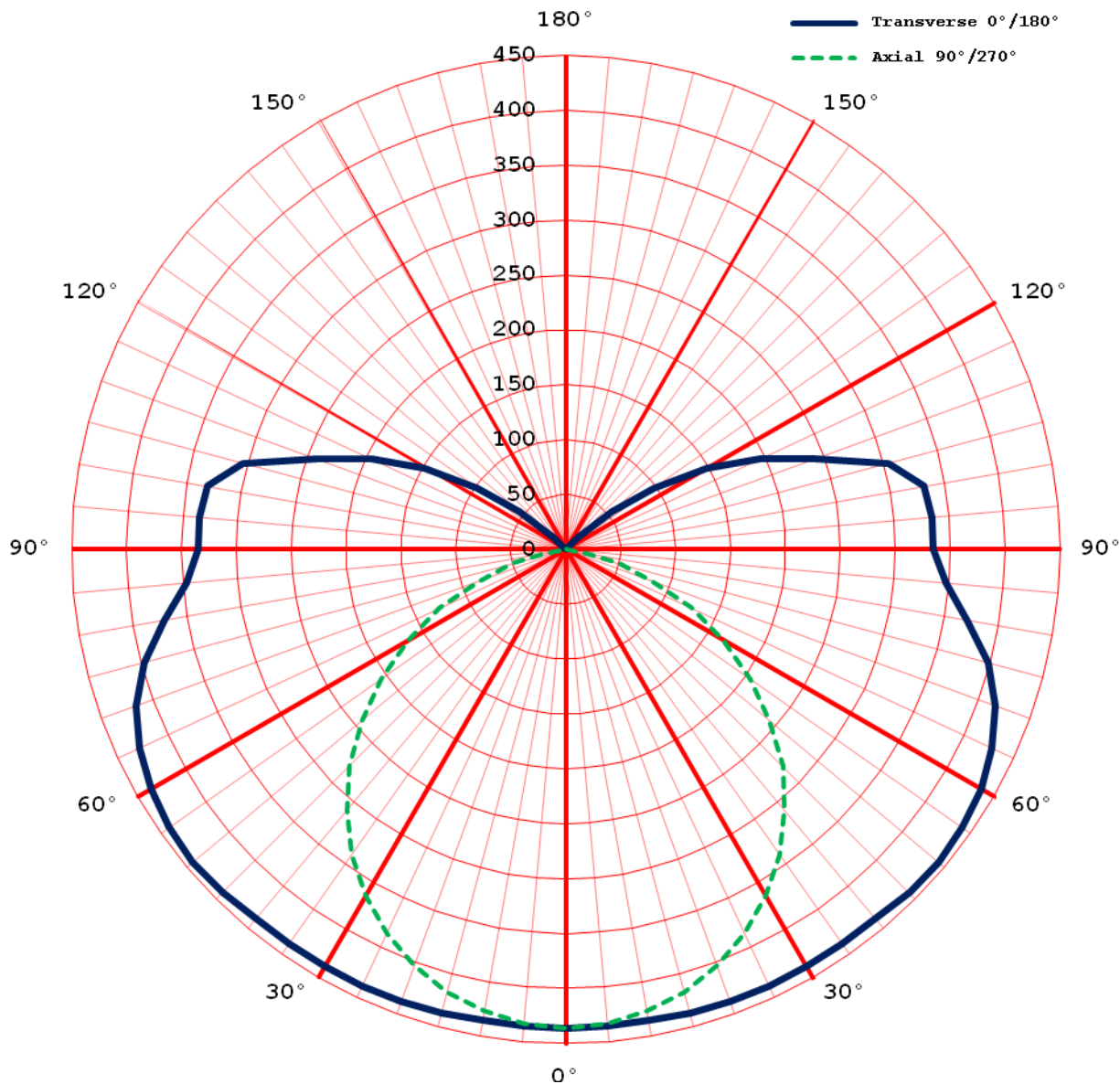
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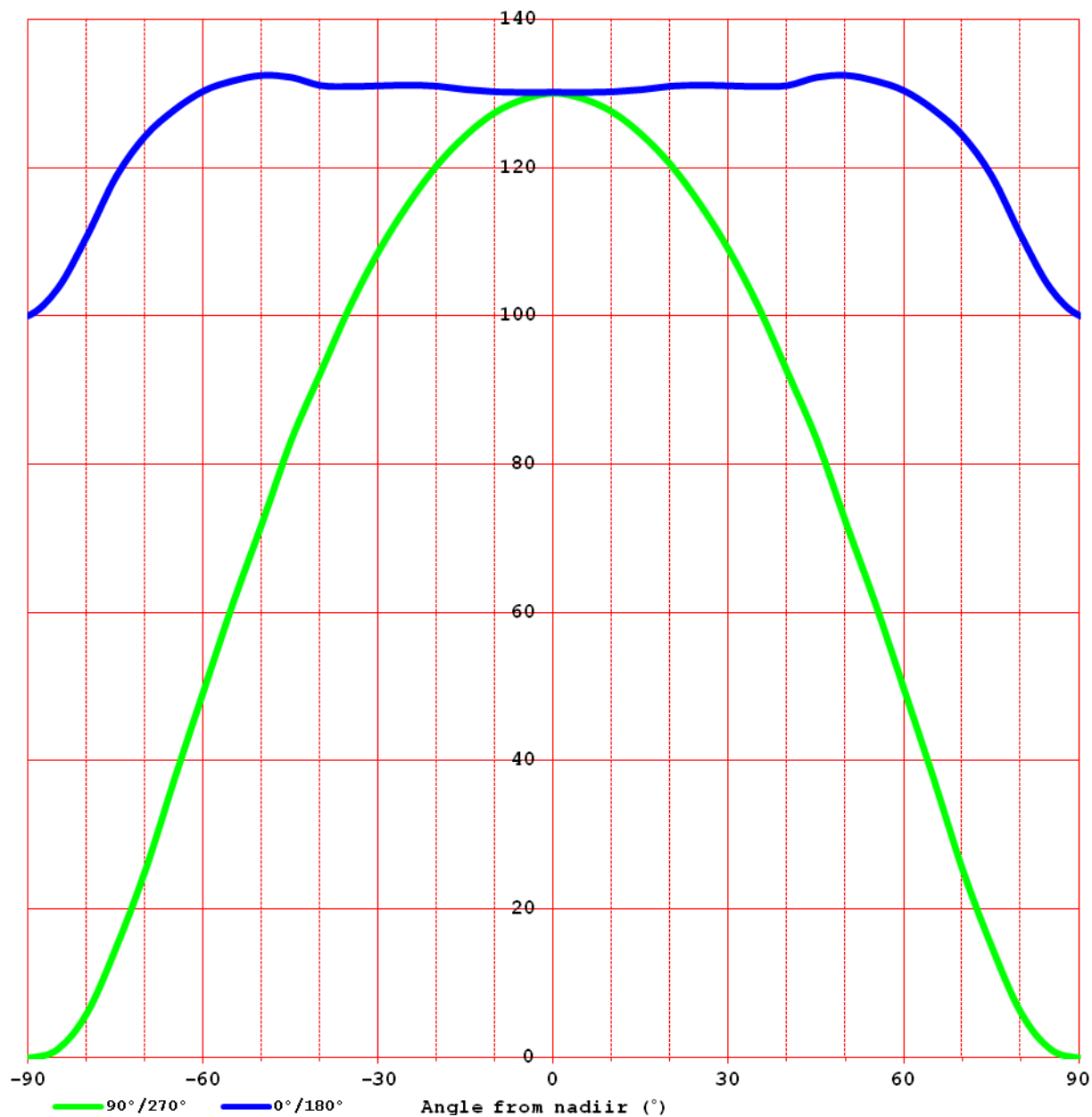
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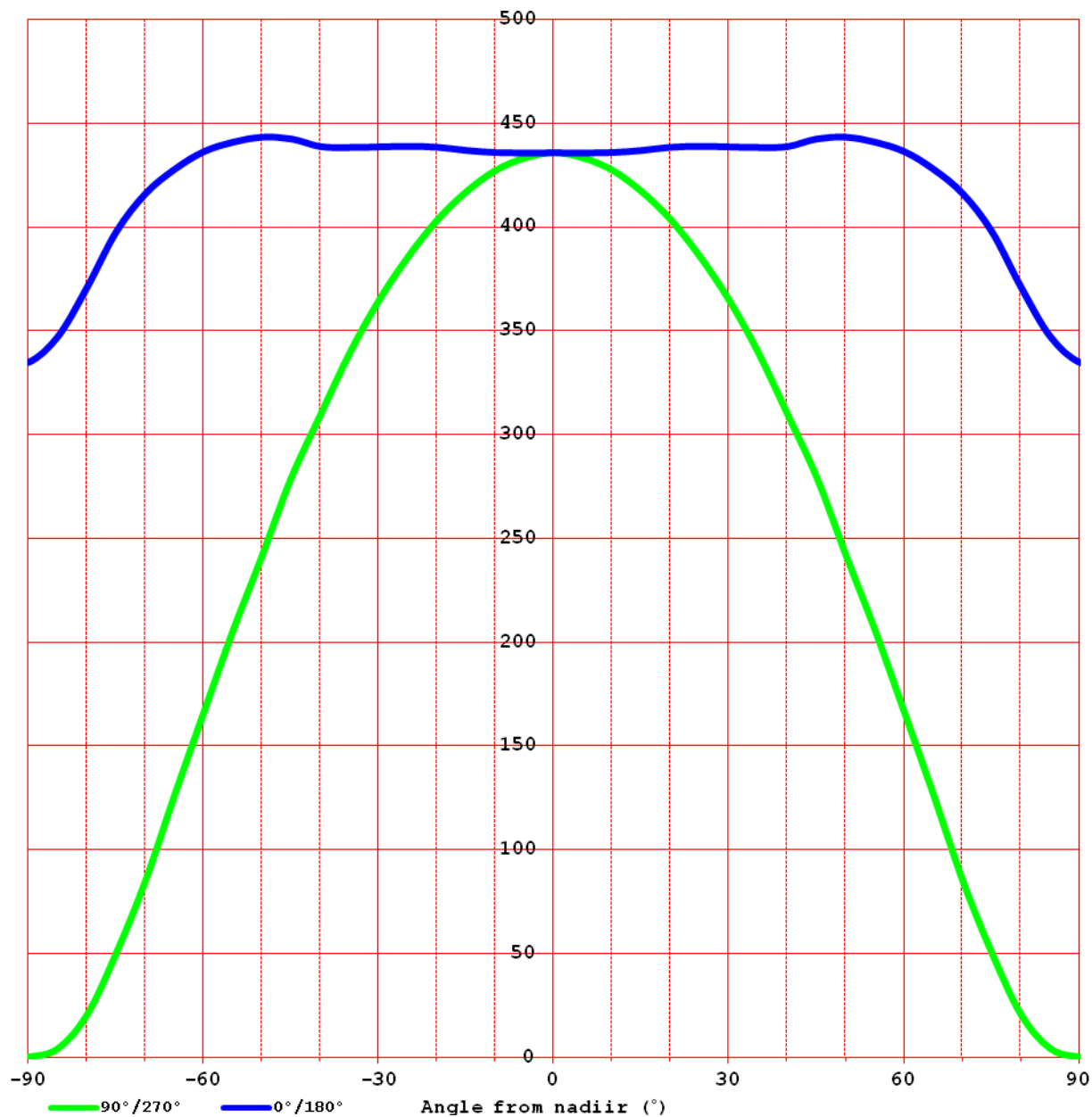
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Average Luminous Intensities (cd/Klm)

Angle	Transverse plane	Axial plane
0°	130.11	130.11
5°	130.07	129.34
10°	130.15	127.56
15°	130.45	124.51
20°	130.92	120.43
25°	131.04	115.13
30°	130.96	108.85
35°	130.88	101.30
40°	131.00	92.44
45°	132.11	83.36
50°	132.36	72.16
55°	131.64	61.34
60°	130.29	49.59
65°	127.75	37.71
70°	124.23	25.33
75°	118.77	14.93
80°	110.77	6.07
85°	103.69	1.19
90°	100.00	0.00
95°	100.09	0.00
100°	98.95	0.00
105°	90.89	0.00
110°	72.28	0.00
115°	58.30	0.00
120°	44.24	0.00
125°	29.28	0.00
130°	16.28	0.00
135°	4.62	0.00
140°	0.64	0.00
145°	0.51	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°	435.85	435.85
5°	435.72	433.30
10°	436.01	427.33
15°	437.01	417.10
20°	438.57	403.45
25°	439.00	385.69
30°	438.72	364.66
35°	438.44	339.36
40°	438.86	309.66
45°	442.55	279.25
50°	443.41	241.73
55°	441.00	205.49
60°	436.47	166.13
65°	427.96	126.34
70°	416.18	84.84
75°	397.88	50.02
80°	371.07	20.32
85°	347.36	3.98
90°	335.01	0.00
95°	335.29	0.00
100°	331.49	0.00
105°	304.47	0.00
110°	242.12	0.00
115°	195.31	0.00
120°	148.21	0.00
125°	98.10	0.00
130°	54.53	0.00
135°	15.48	0.00
140°	2.13	0.00
145°	1.70	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	0.15
	Down	0.59
	Total	0.73

Spacing to Height Ratios	SHR NOM	1.75
	SHR MAX	1.86
	SHR MAX TRANS	2.51

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	.41	.45	.49	.54	.58	.61	.64	.67	
	.30		N/A	.34	.39	.43	.49	.53	.56	.60	.63	
	.10		N/A	.30	.35	.39	.44	.49	.52	.57	.60	
.50	.50	.20	N/A	.37	.42	.45	.50	.53	.55	.59	.61	
	.30		N/A	.32	.37	.40	.45	.49	.52	.56	.58	
	.10		N/A	.28	.33	.36	.41	.45	.48	.53	.56	
.30	.50	.20	N/A	.34	.38	.41	.45	.48	.51	.54	.56	
	.30		N/A	.30	.34	.37	.42	.45	.48	.51	.53	
	.10		N/A	.26	.31	.34	.39	.42	.45	.49	.51	
.00	.00	.00	N/A	.23	.27	.29	.34	.37	.39	.42	.45	
BZ Class			N/A	6	6	6	6	6	6	6	6	

CIE Flux code 32 / 60 / 83 / 80 / 73

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	0.21	0.28	0.34	0.40	0.46	0.54	0.60	0.64	0.69	0.72	0.79	0.81			
CIE class	8	/	8	/	8	/	8	/	8	/	8	/	9	/	-

Flux Fraction Ratio 0.25
DIN Class 0.73 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

36W/840 FT8 GE Polulux XLr

Lamp lumen output

3,350 lm

Lamp quantity

1

Angle

Aspect Factors

	Parallel plane	Perpendicular plane
0°	0.000	0.000
5°	0.087	0.004
10°	0.172	0.015
15°	0.255	0.033
20°	0.333	0.058
25°	0.406	0.088
30°	0.473	0.123
35°	0.532	0.161
40°	0.584	0.200
45°	0.627	0.240
50°	0.662	0.279
55°	0.690	0.314
60°	0.710	0.345
65°	0.723	0.371
70°	0.731	0.391
75°	0.735	0.404
80°	0.737	0.411
85°	0.737	0.413
90°	0.737	0.413

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Zonal Flux Calculations

Angles	Individual	Cumulative
0° - 5°	0.4%	0.4%
5° - 10°	1.3%	1.7%
10° - 15°	2.1%	3.8%
15° - 20°	2.9%	6.6%
20° - 25°	3.6%	10.2%
25° - 30°	4.2%	14.4%
30° - 35°	4.8%	19.2%
35° - 40°	5.2%	24.4%
40° - 45°	5.6%	30.0%
45° - 50°	5.9%	35.9%
50° - 55°	6.1%	42.0%
55° - 60°	6.2%	48.2%
60° - 65°	6.1%	54.3%
65° - 70°	6.0%	60.3%
70° - 75°	5.7%	66.0%
75° - 80°	5.3%	71.2%
80° - 85°	4.7%	75.9%
85° - 90°	4.3%	80.3%
90° - 95°	4.2%	84.5%
95° - 100°	4.0%	88.5%
100° - 105°	3.6%	92.1%
105° - 110°	2.8%	94.9%
110° - 115°	2.1%	97.0%
115° - 120°	1.4%	98.4%
120° - 125°	0.9%	99.3%
125° - 130°	0.5%	99.8%
130° - 135°	0.2%	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/m²)

Elevation(°)

Azimuth(°)

	0.0°	30.0°	60.0°	90.0°	120.0°	150.0°	180.0°
45°	4768	4614	4267	4513	4267	4614	4768
50°	4940	4769	4216	4298	4216	4769	4940
55°	5126	4930	4191	4094	4191	4930	5126
60°	5346	5106	4233	3797	4233	5106	5346
65°	5585	5318	4340	3416	4340	5318	5585
70°	5859	5582	4394	2835	4394	5582	5859
75°	6130	5859	4493	2209	4493	5859	6130
80°	6367	6097	4522	1337	4522	6097	6367
85°	6783	6448	4580	522	4580	6448	6783
	180.0°	210.0°	240.0°	270.0°	300.0°	330.0°	0.0°
45°	4768	4614	4267	4513	4267	4614	4768
50°	4940	4769	4216	4298	4216	4769	4940
55°	5126	4930	4191	4094	4191	4930	5126
60°	5346	5106	4234	3797	4233	5106	5346
65°	5585	5318	4340	3416	4340	5318	5585
70°	5859	5582	4394	2835	4394	5582	5859
75°	6130	5859	4493	2209	4493	5859	6130
80°	6367	6097	4522	1337	4522	6097	6367
85°	6783	6448	4580	522	4580	6448	6783

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Non averaged Luminance Values (cd/m²)

Elevation(°)

Azimuth(°)

	0.0°	30.0°	60.0°	90.0°	120.0°	150.0°	180.0°
45°	4705	4538	4210	4531	4334	4671	4832
50°	4868	4683	4165	4327	4275	4833	5012
55°	5040	4835	4109	4084	4255	5000	5212
60°	5245	4978	4183	3802	4249	5200	5447
65°	5463	5217	4262	3444	4434	5414	5706
70°	5722	5448	4334	2879	4486	5669	5995
75°	5989	5706	4407	2260	4581	5976	6271
80°	6190	5930	4447	1366	4558	6204	6544
85°	6626	6294	4472	597	4674	6568	6940
	180.0°	210.0°	240.0°	270.0°	300.0°	330.0°	0.0°
45°	4832	4653	4275	4496	4250	4595	4705
50°	5012	4808	4215	4269	4211	4754	4868
55°	5212	4967	4203	4104	4197	4917	5040
60°	5447	5147	4254	3793	4247	5097	5245
65°	5706	5338	4322	3388	4343	5305	5463
70°	5995	5627	4325	2791	4432	5582	5722
75°	6271	5879	4445	2158	4541	5876	5989
80°	6544	6097	4473	1309	4608	6158	6190
85°	6940	6448	4480	447	4694	6480	6626

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Averaged Luminance Values (cd/m²/klm)

Elevation(°)	Azimuth(°)						
	0.0°	30.0°	60.0°	90.0°	120.0°	150.0°	180.0°
45°	1423	1377	1274	1347	1274	1377	1423
50°	1475	1424	1259	1283	1259	1424	1475
55°	1530	1472	1251	1222	1251	1472	1530
60°	1596	1524	1264	1133	1264	1524	1596
65°	1667	1588	1296	1020	1296	1588	1667
70°	1749	1666	1312	846	1312	1666	1749
75°	1830	1749	1341	659	1341	1749	1830
80°	1901	1820	1350	399	1350	1820	1901
85°	2025	1925	1367	156	1367	1925	2025
	180.0°	210.0°	240.0°	270.0°	300.0°	330.0°	0.0°
45°	1423	1377	1274	1347	1274	1377	1423
50°	1475	1424	1259	1283	1259	1424	1475
55°	1530	1472	1251	1222	1251	1472	1530
60°	1596	1524	1264	1133	1264	1524	1596
65°	1667	1588	1296	1020	1296	1588	1667
70°	1749	1666	1312	846	1312	1666	1749
75°	1830	1749	1341	659	1341	1749	1830
80°	1901	1820	1350	399	1350	1820	1901
85°	2025	1925	1367	156	1367	1925	2025

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Customer

Encapsulite International Ltd.

Luminaire Range

MT70 IP68

Luminaire catalog No.

MT70 36W

Luminaire description

linear cylindrical luminaire
with clear cover

data derived from range test series

Lamp description

36W/840 FT8 GE Polulux XLr

Lamp lumen output

3,350 lm

Lamp quantity

1

Non averaged Luminance Values (cd/m²/klm)

Elevation(°)

Azimuth(°)

	0.0°	30.0°	60.0°	90.0°	120.0°	150.0°	180.0°
45°	1405	1355	1257	1353	1294	1394	1442
50°	1453	1398	1243	1292	1276	1443	1496
55°	1505	1443	1227	1219	1270	1492	1556
60°	1566	1486	1249	1135	1269	1552	1626
65°	1631	1557	1272	1028	1324	1616	1703
70°	1708	1626	1294	859	1339	1692	1790
75°	1788	1703	1316	675	1367	1784	1872
80°	1848	1770	1328	408	1361	1852	1953
85°	1978	1879	1335	178	1395	1961	2072
	180.0°	210.0°	240.0°	270.0°	300.0°	330.0°	0.0°
45°	1442	1389	1276	1342	1269	1372	1405
50°	1496	1435	1258	1274	1257	1419	1453
55°	1556	1483	1255	1225	1253	1468	1505
60°	1626	1536	1270	1132	1268	1522	1566
65°	1703	1593	1290	1011	1296	1583	1631
70°	1790	1680	1291	833	1323	1666	1708
75°	1872	1755	1327	644	1356	1754	1788
80°	1953	1820	1335	391	1376	1838	1848
85°	2072	1925	1337	133	1401	1934	1978

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Customer Encapsulite International Ltd.
Luminaire Range MT70 IP68
Luminaire catalog No. MT70 36W
Luminaire description linear cylindrical luminaire
with clear cover
data derived from range test series
Lamp description 36W/840 FT8 GE Polulux XLr
Lamp lumen output 3,350 lm
Lamp quantity 1

Maximum Non averaged Luminance Values (cd/m²)

Elevation(°)

Maximum Azimuth Angle

45°	4832	180°
50°	5012	180°
55°	5212	180°
60°	5447	180°
65°	5706	180°
70°	5995	180°
75°	6271	180°
80°	6544	180°
85°	6940	180°

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Lamp description 36W/840 FT8 GE Polulux XLr
Lamp lumen output 3,350 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 ²)	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 ²)	Use permitted at Luminance Limit Angle(°)	
		55°	65°
Medium luminance screen (L <= 200 cdm ²) Case B negative polarity and/or higher requirements	1000	-	NO
Medium luminance screen (L <= 200 cdm ²) Case A positive polarity and normal requirements	1500	-	NO
High luminance screen (L > 200 cd/m ²) Case B negative polarity and/or higher requirements	1500	-	NO
High luminance screen (L > 200 cd/m ²) Case A positive polarity and normal requirements	3000	-	NO

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Customer

Encapsulite International Ltd.

Luminaire Range

MT70 IP68

Luminaire catalog No.

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Luminaire description

linear cylindrical luminaire
with clear cover

data derived from range test series

Lamp description

36W/840 FT8 GE Polulux XLr

Lamp lumen output

3,350 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	12.6	14.3	13.4	15.2	16.1	8.8	10.6	9.6	11.4	12.3
3H	16.1	17.7	16.9	18.5	19.5	10.7	12.4	11.6	13.2	14.2
4H	17.8	19.3	18.6	20.1	21.1	11.4	12.9	12.2	13.7	14.7
6H	19.5	21.0	20.4	21.8	22.9	11.8	13.2	12.6	14.1	15.1
8H	20.4	21.8	21.2	22.7	23.7	11.8	13.2	12.7	14.1	15.1
12H	21.3	22.7	22.2	23.5	24.6	11.9	13.2	12.7	14.1	15.1
4H 2H	13.6	15.1	14.4	15.9	16.9	11.1	12.7	11.9	13.5	14.5
3H	17.4	18.7	18.2	19.6	20.6	13.4	14.8	14.3	15.7	16.7
4H	19.4	20.6	20.2	21.5	22.5	14.4	15.6	15.3	16.5	17.6
6H	21.3	22.4	22.2	23.3	24.4	15.0	16.1	15.9	17.0	18.1
8H	22.3	23.4	23.2	24.3	25.4	15.2	16.3	16.1	17.2	18.3
12H	23.4	24.4	24.3	25.3	26.4	15.4	16.3	16.3	17.2	18.4
8H 4H	20.0	21.1	20.9	22.0	23.1	16.6	17.7	17.5	18.6	19.7
6H	22.3	23.2	23.2	24.1	25.2	17.6	18.5	18.5	19.5	20.6
8H	23.6	24.4	24.5	25.4	26.5	18.1	18.9	19.0	19.9	21.0
12H	24.9	25.6	25.9	26.6	27.7	18.4	19.1	19.3	20.1	21.2
12H 4H	20.2	21.2	21.1	22.1	23.2	17.6	18.5	18.5	19.4	20.6
6H	22.6	23.4	23.6	24.4	25.5	18.9	19.7	19.8	20.6	21.7
8H	24.0	24.7	24.9	25.7	26.8	19.4	20.1	20.4	21.1	22.2

Calculated in accordance with CIBSE Technical Memorandum No. 10 1985

Customer

Encapsulite International Ltd.

Luminaire Range

MT70 IP68

Luminaire catalog No.

MT70 36W

Luminaire description

linear cylindrical luminaire
with clear cover

data derived from range test series

Lamp description

36W/840 FT8 GE Polulux XLr

Lamp lumen output

3,350 lm

Lamp quantity

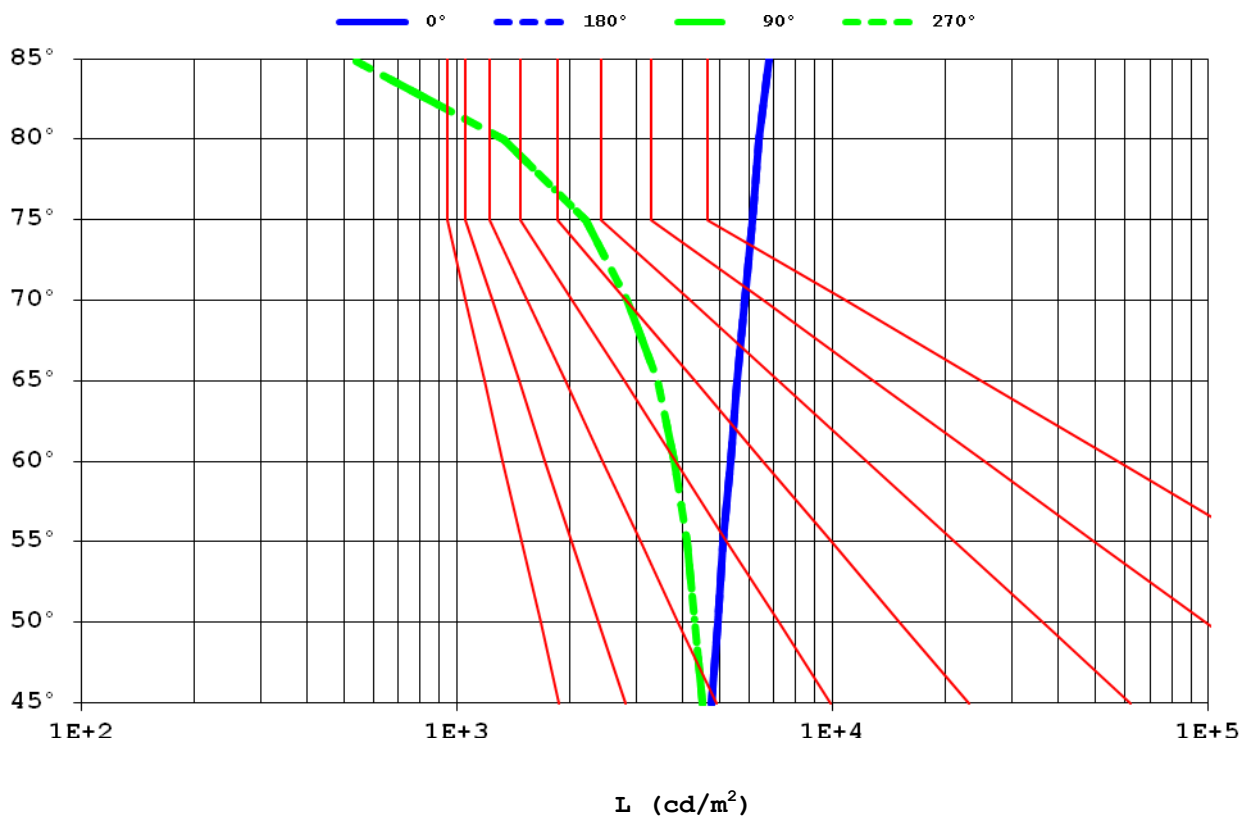
1

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	MT70 IP68
Luminaire catalog No.	MT70 36W
Luminaire description	linear cylindrical luminaire with clear cover data derived from range test series
Lamp description	36W/840 FT8 GE Polulux XLr
Lamp lumen output	3,350 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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Luminaire catalog No. MT70 36W
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Lamp lumen output 3,350 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 = 3350 lumens
ballast lumen factor = 1.00

To achieve an Illuminance of 100 lux

Surface Area (m ²)	20	30	40	50	80	100	200	300	500
No. of luminaires	1.2	1.8	2.4	3.0	4.8	6.0	12.0	18.0	30.0