



42 Partners Limited

Unit 88 Bizspace Park
Upper Villiers Street
Wolverhampton
WV2 4XB
UK

www.42partners.com

42@42partners.com

T +44 (0) 1902 453650

F +44 (0) 8701 696729

Registered in England: Company Number 3021552
VAT Registration Number: GB 661 1596 34

Photometric Report

Job / Report / Date 42 / 9025 / 9025-12a / 2009.02.19

Customer	ABCD
Luminaire Range	1234
Luminaire catalog No.	1234-5678
Luminaire description	Recessed Emergency LED luminaire Emergency operation Treated as a Maintained luminaire
Lamp description	3*1W LED cluster
Lamp lumen output	25.3lm
No. of lamps in luminaire	1

Photometric Report

- Pictures
- Luminaire information
- Report basis
- Polar Curves
- HV Distribution Curves
- Principal Axes Intensities
- Light Output Ratios & CIBSE TM5 Results
- Aspect Factors
- Luminous intensities
- Zonal Flux Calculations
- Luminance calculations
- VDT Luminance table
- CIBSE TM10 Glare Index Results
- CIE Glare Limiting (Soellnor) Diagram
- Comments
- Quick Design Table
- Emergency Lighting Spacing Data

Job / Report / Date

42 / 9025 / 9025-12a / 2009.02.19

Customer

ABCD

Luminaire Range

1234

Luminaire catalog No.

1234-5678

Luminaire description

Recessed Emergency LED luminaire

Emergency operation

Treated as a Maintained luminaire

Lamp description

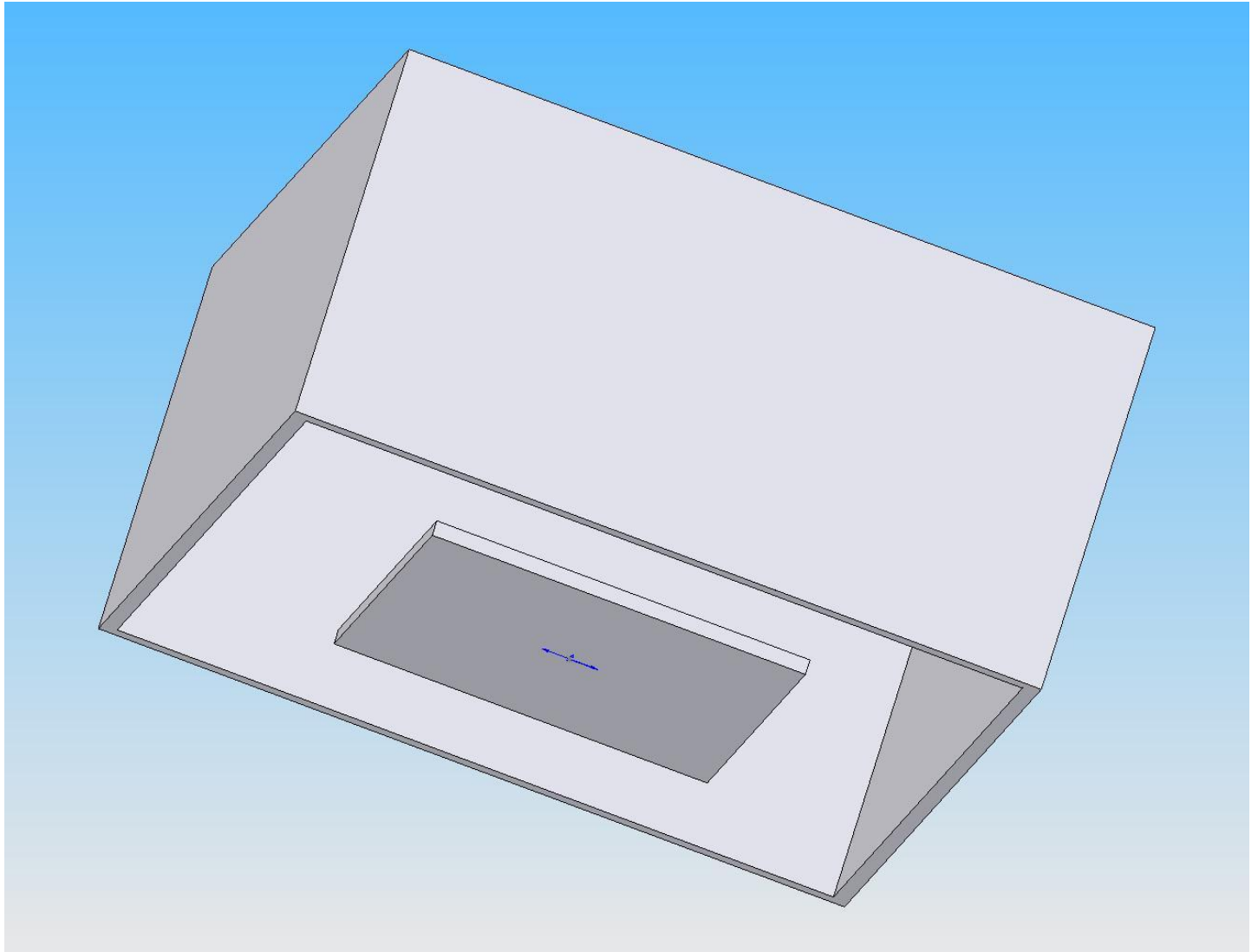
3*1W LED cluster

Lamp lumen output

25.3lm

No. of lamps in luminaire

1



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Lamp lumen output	25.3lm
No. of lamps in luminaire	1

Luminaire physical characteristics

Overall Dimensions

Length	200mm
Width	100mm
Height	50mm

Visible Dimensions when installed

Length	200mm
Width	100mm
Height	20mm

Luminous Dimensions

Length	200mm
Width	100mm
Height 0°	0mm
Height 90°	0mm
Height 180°	0mm
Height 270°	0mm

Luminous Areas

Base	0.02m ²
Sides	0m ² (0°/180° azimuth)
Ends	0m ² (90°/270° azimuth)

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Lamp description	3*1W LED cluster
Lamp lumen output	25.3lm
No. of lamps in luminaire	1

Report Basis

All measurements taken in accordance with BS5225.

Lumen Output figures used in this report (lumens)
Measured Luminaire Output 25

The photometric centre of the luminaire was taken as the geometric centre of the front face of the luminaire.

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

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 of the luminaire was determined in accordance with BS5225 at 25°C.

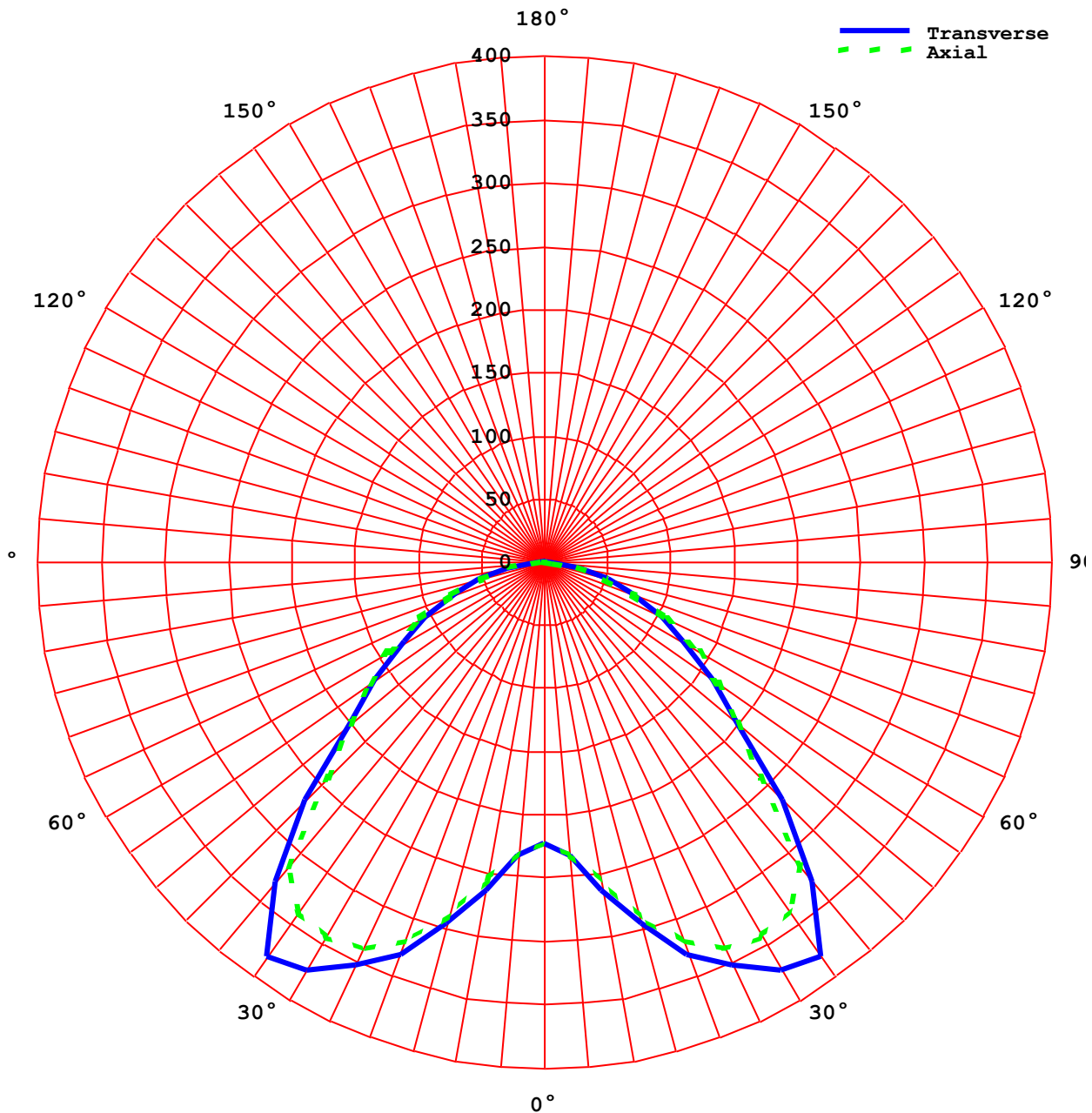
The LED cluster was treated as an integral part of the luminaire.

No measurement of the absolute lumen output of the LED cluster or of individual LEDs separate from the luminaire was made. For calculation purposes, the Lumen Output figure for the luminaire mentioned in this report should be used in conjunction with a Light Output Ratio of the luminaire (LORL) of 1.

No measurement of the ballast factor of the control gear was made.

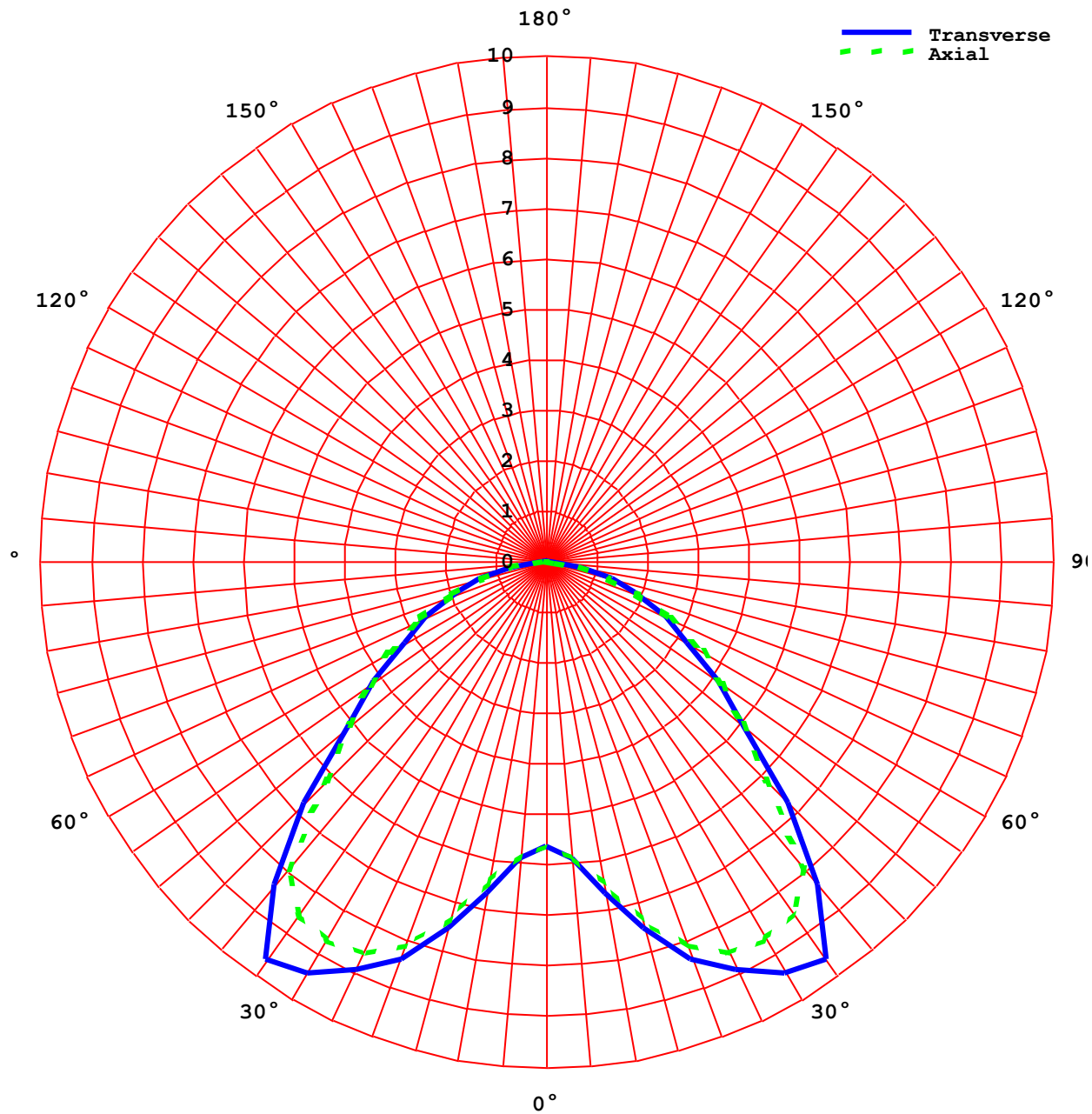
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Average Principal Axes Luminous Intensities (cd/klm)



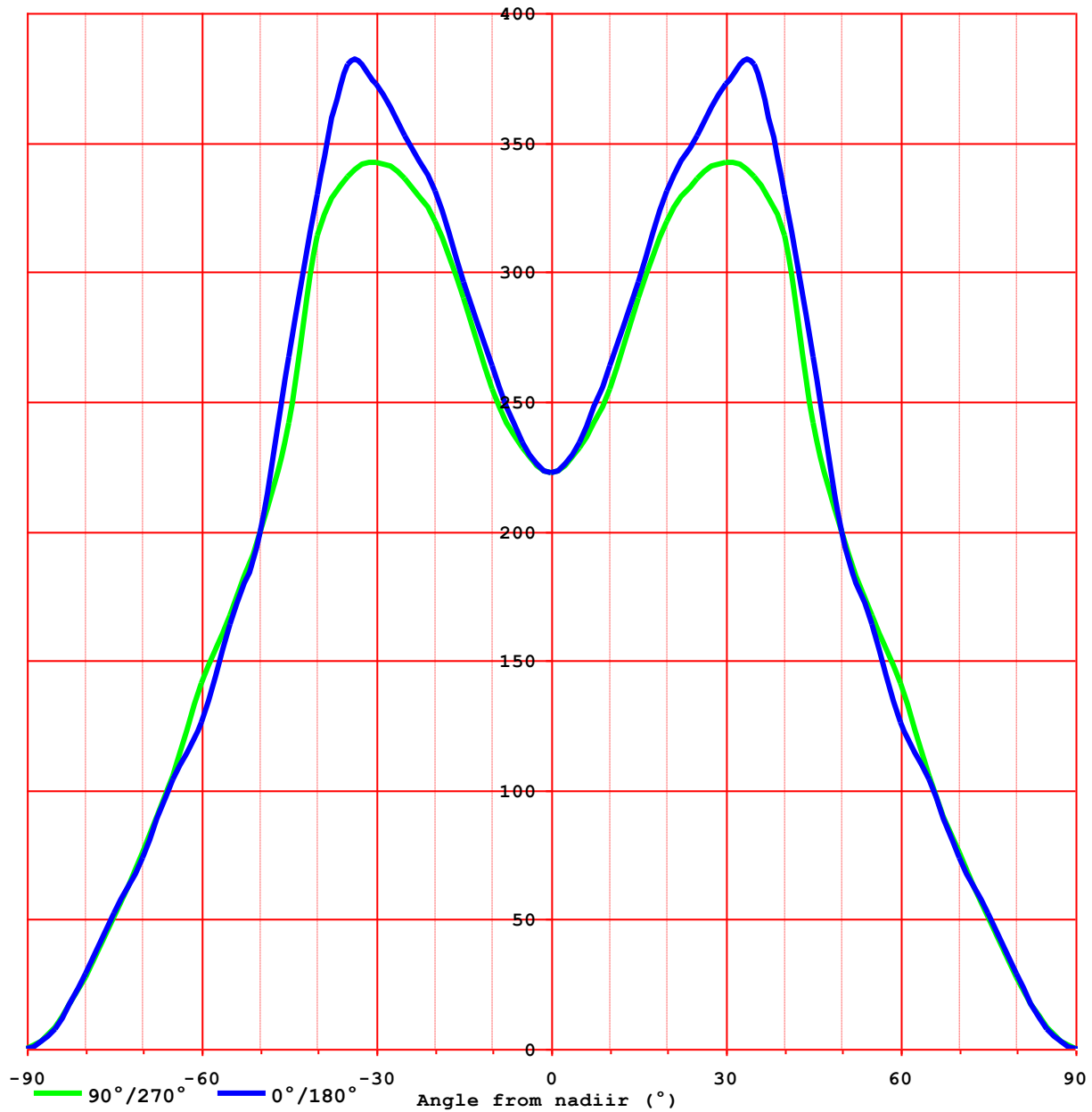
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Average Principal Axes Luminous Intensities (cd)



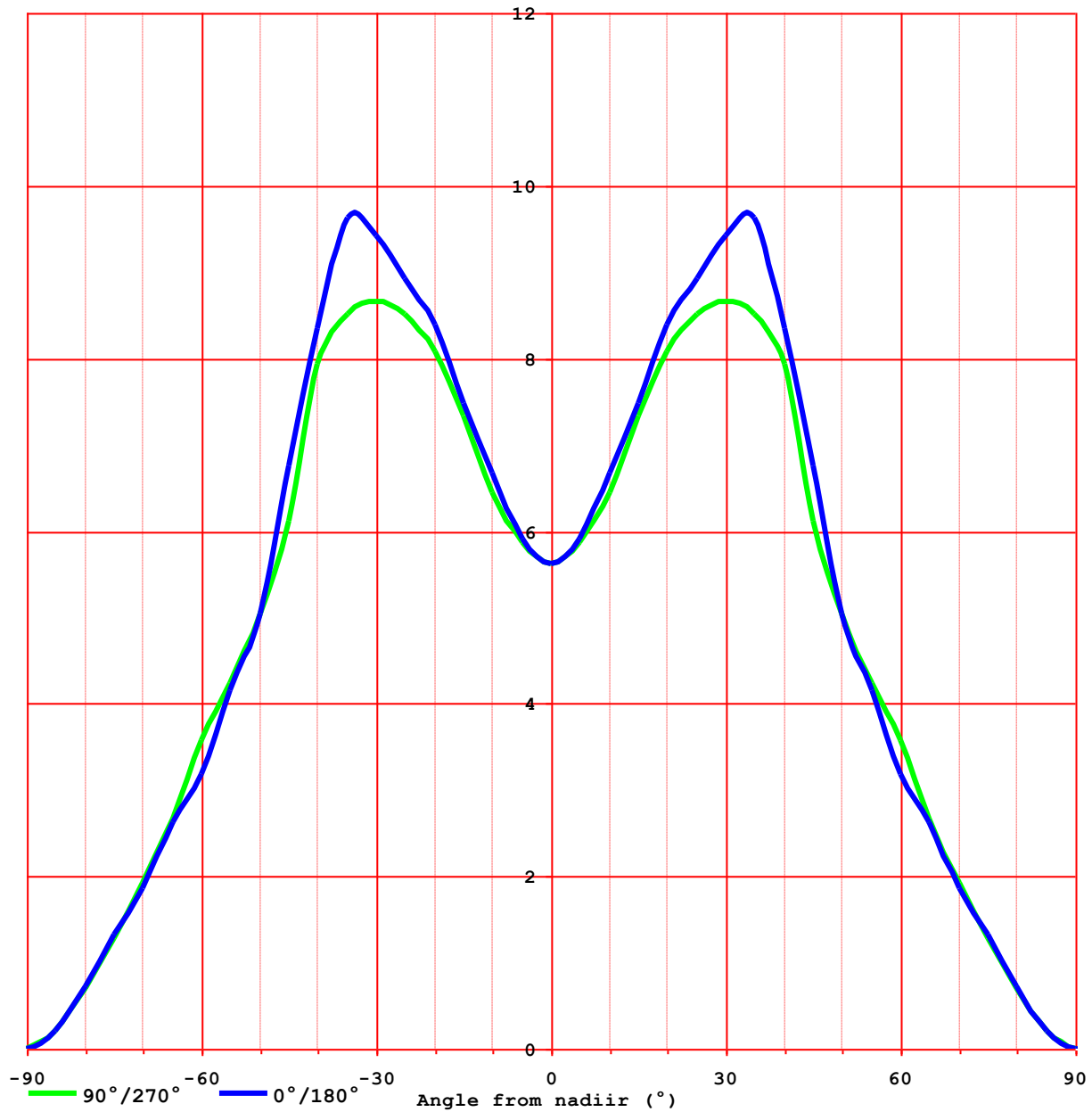
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Average Principal Axes Luminous Intensities (cd)



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No. of lamps in luminaire 1

Average Luminous Intensities (cd/Klm)

Angle	Transverse plane	Axial plane
0°	222.37	222.37
5°	233.75	232.16
10°	263.35	255.05
15°	295.77	289.51
20°	331.13	319.38
25°	352.38	336.28
30°	372.58	341.93
35°	380.16	336.36
40°	329.56	313.80
45°	267.01	241.70
50°	199.54	199.32
55°	163.89	167.24
60°	125.92	141.48
65°	103.64	105.62
70°	73.39	75.65
75°	52.40	50.95
80°	28.80	27.54
85°	7.85	8.02
90°	0.00	0.00

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Average Luminous Intensities (cd)

Angle	Transverse plane	Axial plane
0°	5.63	5.63
5°	5.91	5.87
10°	6.66	6.45
15°	7.48	7.32
20°	8.38	8.08
25°	8.92	8.51
30°	9.43	8.65
35°	9.62	8.51
40°	8.34	7.94
45°	6.76	6.12
50°	5.05	5.04
55°	4.15	4.23
60°	3.19	3.58
65°	2.62	2.67
70°	1.86	1.91
75°	1.33	1.29
80°	0.73	0.70
85°	0.20	0.20
90°	0.00	0.00

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Light Output Ratios Up 0.00
Down 1.00
Total 1.00
Spacing to Height Ratios SHR NOM 2.00
SHR MAX 2.10
SHR MAX TRANS 2.39

This luminaire suffers mid point ratio failure. Lack of uniformity will result if some spacings are used, see the comments section for full details.

Utilisation Factors UF(F) Standard Presentation SHR NOM = 2.00

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	.78	.83	.87	.93	.98	1.00	1.04	1.06	
	.30		N/A	.71	.77	.81	.88	.93	.96	1.01	1.03	
	.10		N/A	.67	.72	.77	.84	.89	.93	.98	1.01	
.50	.50	.20	N/A	.76	.80	.85	.90	.94	.97	1.00	1.02	
	.30		N/A	.70	.75	.80	.86	.90	.93	.97	1.00	
	.10		N/A	.66	.71	.76	.83	.87	.90	.95	.98	
.30	.50	.20	N/A	.74	.78	.82	.88	.91	.93	.96	.98	
	.30		N/A	.69	.74	.78	.84	.88	.91	.94	.96	
	.10		N/A	.66	.70	.75	.81	.85	.88	.92	.95	
.00	.00	.00	N/A	.63	.68	.72	.78	.82	.84	.88	.90	
BZ Class			N/A	2	2	3	3	2	3	3	3	

CIE Flux code 50 / 83 / 97 / 100 / 100

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 0.32 0.41 0.49 0.56 0.62 0.70 0.76 0.80 0.84 0.87 0.93 0.96
CIE class 5 / 5 / 5 / 4 / 4 / 4 / 4 / 4 / 4 / 4 / 4 / 4

Flux Fraction Ratio 0.00
DIN Class 1.00 A

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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Angle Aspect Factors

	Parallel plane	Perpendicular plane
0°	0.000	0.000
5°	0.089	0.004
10°	0.184	0.016
15°	0.288	0.039
20°	0.402	0.075
25°	0.521	0.125
30°	0.639	0.186
35°	0.751	0.258
40°	0.852	0.335
45°	0.933	0.409
50°	0.991	0.473
55°	1.035	0.530
60°	1.067	0.581
65°	1.090	0.624
70°	1.103	0.657
75°	1.111	0.680
80°	1.114	0.695
85°	1.115	0.702
90°	1.115	0.704

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Zonal Flux Calculations

Angles	Individual	Cumulative
0° - 5°	0.5%	0.5%
5° - 10°	1.8%	2.3%
10° - 15°	3.2%	5.5%
15° - 20°	5.0%	10.5%
20° - 25°	6.8%	17.3%
25° - 30°	8.6%	25.9%
30° - 35°	10.1%	36.1%
35° - 40°	10.8%	46.9%
40° - 45°	10.5%	57.4%
45° - 50°	9.6%	67.0%
50° - 55°	8.4%	75.4%
55° - 60°	7.2%	82.6%
60° - 65°	5.9%	88.5%
65° - 70°	4.7%	93.1%
70° - 75°	3.4%	96.6%
75° - 80°	2.2%	98.7%
80° - 85°	1.0%	99.8%
85° - 90°	0.2%	100.0%

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Averaged Luminance Values (Cd/m²)

Elevation(°)

Azimuth(°)

	0°	15°	30°	45°	60°	75°	90°
45°	478	481	497	486	457	455	432
50°	393	394	397	460	444	409	392
55°	361	372	393	384	394	392	369
60°	319	335	356	359	353	335	358
65°	310	313	313	333	321	317	316
70°	271	284	297	295	287	296	280
75°	256	257	256	261	260	257	249
80°	210	212	220	218	213	207	201
85°	114	120	128	128	122	118	116
	90°	105°	120°	135°	150°	165°	180°
45°	432	455	457	486	497	481	478
50°	392	409	444	460	397	394	393
55°	369	392	394	384	393	372	361
60°	358	335	353	359	356	335	319
65°	316	317	321	333	313	313	310
70°	280	296	287	295	297	284	271
75°	249	257	260	261	256	257	256
80°	201	207	213	218	220	212	210
85°	116	118	122	128	128	120	114
	180°	195°	210°	225°	240°	255°	270°
45°	478	481	497	486	457	455	432
50°	393	394	397	460	444	409	392
55°	361	372	393	384	394	392	369
60°	319	335	356	359	353	335	358
65°	310	313	313	333	321	317	316
70°	271	284	297	295	287	296	280
75°	256	257	256	261	260	257	249
80°	210	212	220	218	213	207	201
85°	114	120	128	128	122	118	116
	270°	285°	300°	315°	330°	345°	0°
45°	432	455	457	486	497	481	478
50°	392	409	444	460	397	394	393
55°	369	392	394	384	393	372	361
60°	358	335	353	359	356	335	319
65°	316	317	321	333	313	313	310
70°	280	296	287	295	297	284	271
75°	249	257	260	261	256	257	256
80°	201	207	213	218	220	212	210
85°	116	118	122	128	128	120	114

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Non averaged Luminance Values (Cd/m²)

Elevation(°)

Azimuth(°)

	0°	15°	30°	45°	60°	75°	90°
45°	486	494	506	488	456	456	431
50°	399	401	408	470	447	408	389
55°	366	379	400	391	397	390	361
60°	326	344	364	363	360	335	351
65°	323	320	313	336	325	315	307
70°	281	292	298	293	283	291	270
75°	265	261	252	258	258	249	233
80°	219	213	212	207	203	194	184
85°	112	115	114	109	101	98	98
	90°	105°	120°	135°	150°	165°	180°
45°	431	454	457	483	487	467	469
50°	389	406	439	447	385	388	387
55°	361	384	384	371	384	365	357
60°	351	327	342	351	345	325	311
65°	307	308	309	320	301	302	298
70°	270	283	273	278	279	269	262
75°	233	239	239	239	241	246	247
80°	184	192	199	205	211	204	201
85°	98	97	97	109	114	115	116
	180°	195°	210°	225°	240°	255°	270°
45°	469	474	494	479	453	453	434
50°	387	390	393	452	436	406	396
55°	357	368	390	378	390	391	377
60°	311	331	356	355	348	336	365
65°	298	307	315	338	324	321	325
70°	262	281	301	304	293	304	290
75°	247	257	266	274	273	272	266
80°	201	211	225	234	231	224	217
85°	116	131	146	149	146	139	135
	270°	285°	300°	315°	330°	345°	0°
45°	434	459	464	494	502	490	486
50°	396	416	453	471	401	397	399
55°	377	402	405	396	397	375	366
60°	365	343	361	367	361	339	326
65°	325	324	326	340	322	323	323
70°	290	306	298	304	310	294	281
75°	266	270	270	272	264	265	265
80°	217	218	220	225	230	220	219
85°	135	138	143	144	137	121	112

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Maximum Non averaged Luminance Values (Cd/m²)

Elevation(°)

Maximum Azimuth Angle

45°	506	30°
50°	471	315°
55°	405	300°
60°	367	315°
65°	340	315°
70°	310	330°
75°	274	225°
80°	234	225°
85°	149	225°

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VDT Luminance Information
BS EN 12464 / CIBSE LG7 / 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	YES	YES
Screen Type III (No screen treatment) used with only positive polarity software	1000	YES	YES
Screen Type I and II (Good or moderate screen treatment) used with only positive polarity software	1500	YES	YES

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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

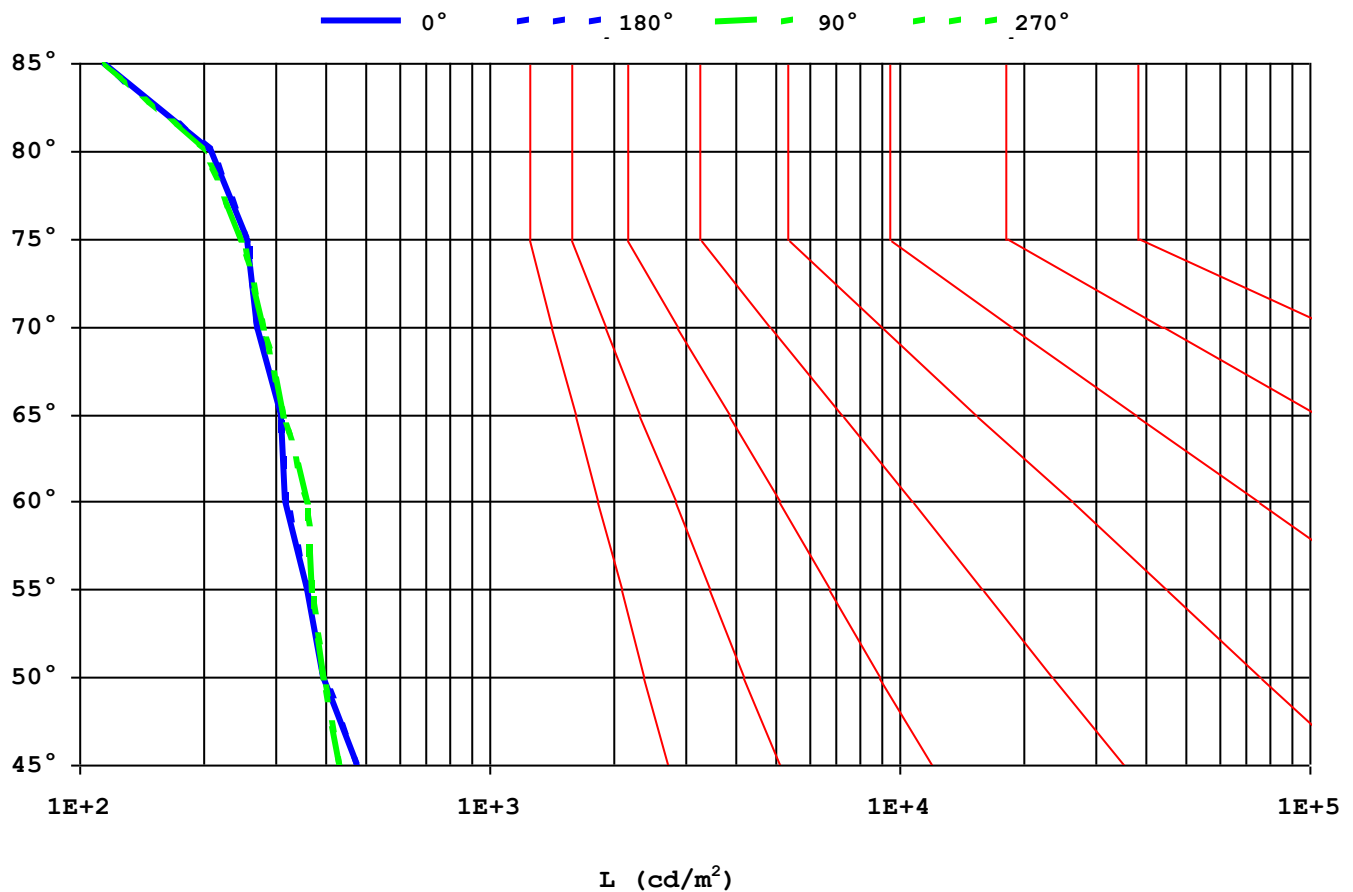
Room dimension		Viewed crosswise					Viewed endwise				
X Y		0°					90°				
2H	2H	20.9	22.9	21.3	23.3	23.7	21.0	23.0	21.5	23.4	23.8
	3H	22.9	24.7	23.4	25.1	25.6	23.0	24.8	23.5	25.3	25.7
	4H	23.7	25.4	24.2	25.9	26.3	23.8	25.5	24.3	26.0	26.4
	6H	24.4	26.0	24.9	26.5	26.9	24.5	26.0	25.0	26.5	27.0
	8H	24.6	26.1	25.1	26.6	27.1	24.6	26.2	25.1	26.6	27.1
	12H	24.7	26.2	25.2	26.6	27.2	24.7	26.2	25.2	26.7	27.2
4H	2H	21.8	23.5	22.3	23.9	24.4	21.9	23.6	22.4	24.0	24.5
	3H	24.1	25.6	24.6	26.0	26.5	24.2	25.6	24.7	26.1	26.6
	4H	25.1	26.4	25.7	26.9	27.5	25.2	26.5	25.7	27.0	27.5
	6H	25.9	27.1	26.5	27.6	28.2	25.9	27.1	26.5	27.6	28.2
	8H	26.2	27.3	26.8	27.8	28.4	26.2	27.3	26.8	27.8	28.4
	12H	26.4	27.4	27.0	27.9	28.6	26.4	27.4	27.0	27.9	28.5
8H	4H	25.7	26.7	26.3	27.3	27.9	25.7	26.8	26.3	27.3	27.9
	6H	26.6	27.5	27.2	28.1	28.7	26.6	27.5	27.2	28.1	28.7
	8H	27.1	27.9	27.7	28.5	29.1	27.1	27.8	27.7	28.5	29.1
	12H	27.3	28.0	28.0	28.6	29.3	27.3	27.9	28.0	28.6	29.2
12H	4H	25.8	26.8	26.4	27.3	27.9	25.8	26.8	26.4	27.4	28.0
	6H	26.9	27.6	27.5	28.3	28.9	26.9	27.6	27.5	28.3	28.9
	8H	27.3	27.9	28.0	28.6	29.2	27.3	27.9	27.9	28.6	29.2

Calculated in accordance with CIBSE Technical Memorandum No. 10 1985

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CIE Glare Limiting (Soellnor) Diagram

Glare Rating	Quality Class	Service values of illuminance							
		a	b	c	d	e	f	g	h
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



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Luminaire description	Recessed Emergency LED luminaire Emergency operation Treated as a Maintained luminaire
Lamp description	3*1W LED cluster
Lamp lumen output	25.3lm
No. of lamps in luminaire	1

Comments

This luminaire suffers from mid point ratio failure.

When using lumen method calculations to design lighting schemes, lack of uniformity may be indicated if space to height ratios between approximately 0.86 and 1.69 are used, and if transverse space to height ratios between approximately 0.89 and 1.85 are used.

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 ABCD
Luminaire Range 1234
Luminaire catalog No. 1234-5678
Luminaire description Recessed Emergency LED luminaire
Emergency operation
Treated as a Maintained luminaire
Lamp description 3*1W LED cluster
Lamp lumen output 25.3lm
No. of lamps in luminaire 1

Quick Design Table

Based on: reflectances of Ceiling = 0.5
Wall = 0.5
Floor = 0.2
Room Index = 2.00
lamp output = 25.3 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	87.4	131.1	174.8	218.5	349.6	437.0	873.9	1310.9	2184.8

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Luminaire description Recessed Emergency LED luminaire
Emergency operation
Treated as a Maintained luminaire
Lamp description 3*1W LED cluster
Lamp lumen output 25.3lm
No. of lamps in luminaire 1

Emergency Lighting Spacing Data

Spacing Data is derived using the listed parameters. If any of these parameters change the spacing data will require recalculation.

Number of lamps illuminated 1
ILL Initial Lamp Lumens 25.3 lumens
BLF Ballast Lumen Factor 1.000
F5 5 second light output factor 1.000
F60 1 minute light output factor 1.000
Fend end of rated duration factor 1.000
SF Luminaire Service Factor 0.8
ELIFE Lamp Maintained Ratio 0.85
Calculation steps 0.10m

Relative luminous intensities (cd/klm)

	0°	15°	30°	45°
0.0°	222.37	222.37	222.37	222.37
5.0°	233.75	233.48	233.22	232.96
10.0°	263.35	261.97	260.58	259.20
15.0°	295.77	294.73	293.68	292.64
20.0°	331.13	329.17	327.21	325.26
25.0°	352.38	349.70	347.02	344.33
30.0°	372.58	367.48	362.37	357.26
35.0°	380.16	372.86	365.56	358.26
40.0°	329.56	326.93	324.31	321.68
45.0°	267.01	262.79	258.57	254.35
50.0°	199.54	199.51	199.47	199.43
55.0°	163.89	164.45	165.01	165.57
60.0°	125.92	128.52	131.11	133.70
65.0°	103.64	103.97	104.30	104.63
70.0°	73.39	73.77	74.14	74.52
75.0°	52.40	52.16	51.92	51.68
80.0°	28.80	28.59	28.38	28.17
85.0°	7.85	7.88	7.91	7.94
90.0°	0.00	0.00	0.00	0.00

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Lamp description 3*1W LED cluster
Lamp lumen output 25.3lm
No. of lamps in luminaire 1

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Spacing Data is derived using the listed parameters. If any of these parameters change the spacing data will require recalculation.

Number of lamps illuminated 1
ILL Initial Lamp Lumens 25.3 lumens
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F60 1 minute light output factor 1.000
Fend end of rated duration factor 1.000
SF Luminaire Service Factor 0.8
ELIFE Lamp Maintained Ratio 0.85
Calculation steps 0.10m

BS5266 calculations

Minimum Lumen Factor = 1.0

Emergency lamp lumens derated for service factor = 17lm

Scaled luminous intensities (cd)

	0°	15°	30°	45°
0.0°	3.83	3.83	3.83	3.83
5.0°	4.02	4.02	4.01	4.01
10.0°	4.53	4.51	4.48	4.46
15.0°	5.09	5.07	5.05	5.03
20.0°	5.70	5.66	5.63	5.60
25.0°	6.06	6.02	5.97	5.92
30.0°	6.41	6.32	6.23	6.15
35.0°	6.54	6.41	6.29	6.16
40.0°	5.67	5.62	5.58	5.53
45.0°	4.59	4.52	4.45	4.38
50.0°	3.43	3.43	3.43	3.43
55.0°	2.82	2.83	2.84	2.85
60.0°	2.17	2.21	2.26	2.30
65.0°	1.78	1.79	1.79	1.80
70.0°	1.26	1.27	1.28	1.28
75.0°	0.90	0.90	0.89	0.89
80.0°	0.50	0.49	0.49	0.48
85.0°	0.14	0.14	0.14	0.14
90.0°	0.00	0.00	0.00	0.00

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Customer ABCD
Luminaire Range 1234
Luminaire catalog No. 1234-5678
Luminaire description Recessed Emergency LED luminaire
Emergency operation
Treated as a Maintained luminaire
Lamp description 3*1W LED cluster
Lamp lumen output 25.3lm
No. of lamps in luminaire 1

Luminaire Spacing Data for Emergency Escape Routes - BS5266 calculations

Minimum Lumen Factor = 1.0

Emergency lamp lumens derated for service factor = 17lm

Maximum Permitted Spacing (in metres) to achieve 0.2 lux

height(m)	90°/-	90°/270°	0°/90 °	0°/180°	0°/-
2.0	2.5	6.3	6.2	6.2	2.5
2.5	2.7	6.8	6.7	6.7	2.8
3.0	2.9	7.1	7.1	7.1	2.9
4.0	2.8	7.7	7.9	8.0	3.0
5.0	-	5.6	5.6	5.7	-
6.0	-	4.1	4.1	4.4	-
8.0	-	-	-	-	-
10.0	-	-	-	-	-

Maximum Permitted Spacing (in metres) to achieve 0.5 lux

height(m)	90°/-	90°/270°	0°/90 °	0°/180°	0°/-
2.0	1.9	4.6	4.6	4.6	1.9
2.5	1.8	4.9	4.9	5.0	1.9
3.0	-	4.2	4.1	4.2	-
4.0	-	-	-	-	-
5.0	-	-	-	-	-
6.0	-	-	-	-	-
8.0	-	-	-	-	-
10.0	-	-	-	-	-

Maximum Permitted Spacing (in metres) to achieve 1 lux

height(m)	90°/-	90°/270°	0°/90 °	0°/180°	0°/-
2.0	-	3.6	3.6	3.7	-
2.5	-	2.2	2.2	2.2	-
3.0	-	-	-	-	-
4.0	-	-	-	-	-
5.0	-	-	-	-	-
6.0	-	-	-	-	-
8.0	-	-	-	-	-
10.0	-	-	-	-	-

It is recommended that the calculation of luminaire layouts for open area (anti panic) lighting should be performed using lighting design programs.

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Customer ABCD
Luminaire Range 1234
Luminaire catalog No. 1234-5678
Luminaire description Recessed Emergency LED luminaire
Emergency operation
Treated as a Maintained luminaire
Lamp description 3*1W LED cluster
Lamp lumen output 25.3lm
No. of lamps in luminaire 1

Emergency Lighting Spacing Data

Spacing Data is derived using the listed parameters. If any of these parameters change the spacing data will require recalculation.

Number of lamps illuminated 1
ILL Initial Lamp Lumens 25.3 lumens
BLF Ballast Lumen Factor 1.000
F5 5 second light output factor 1.000
F60 1 minute light output factor 1.000
Fend end of rated duration factor 1.000
SF Luminaire Service Factor 0.8
ELIFE Lamp Maintained Ratio 0.85
Calculation steps 0.10m

EN1838 calculations

Minimum Lumen Factor = 1.0

Emergency lamp lumens derated for service factor = 17lm

Scaled luminous intensities (cd)

	0°	15°	30°	45°
0.0°	3.83	3.83	3.83	3.83
5.0°	4.02	4.02	4.01	4.01
10.0°	4.53	4.51	4.48	4.46
15.0°	5.09	5.07	5.05	5.03
20.0°	5.70	5.66	5.63	5.60
25.0°	6.06	6.02	5.97	5.92
30.0°	6.41	6.32	6.23	6.15
35.0°	6.54	6.41	6.29	6.16
40.0°	5.67	5.62	5.58	5.53
45.0°	4.59	4.52	4.45	4.38
50.0°	3.43	3.43	3.43	3.43
55.0°	2.82	2.83	2.84	2.85
60.0°	2.17	2.21	2.26	2.30
65.0°	1.78	1.79	1.79	1.80
70.0°	1.26	1.27	1.28	1.28
75.0°	0.90	0.90	0.89	0.89
80.0°	0.50	0.49	0.49	0.48
85.0°	0.14	0.14	0.14	0.14
90.0°	0.00	0.00	0.00	0.00

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Customer ABCD
Luminaire Range 1234
Luminaire catalog No. 1234-5678
Luminaire description Recessed Emergency LED luminaire
Emergency operation
Treated as a Maintained luminaire
Lamp description 3*1W LED cluster
Lamp lumen output 25.3lm
No. of lamps in luminaire 1

Luminaire Spacing Data for Emergency Escape Routes - EN 1838 calculations

Minimum Lumen Factor = 1.0

Emergency lamp lumens derated for service factor = 17lm

Maximum Permitted Spacing (in metres) to achieve 0.2 lux

height(m)	90°/-	90°/270°	0°/90 °	0°/180°	0°/-
2.0	2.5	6.3	6.2	6.2	2.5
2.5	2.7	6.8	6.7	6.7	2.8
3.0	2.9	7.1	7.1	7.1	2.9
4.0	2.8	7.7	7.9	8.0	3.0
5.0	-	5.6	5.6	5.7	-
6.0	-	4.1	4.1	4.4	-
8.0	-	-	-	-	-
10.0	-	-	-	-	-

Maximum Permitted Spacing (in metres) to achieve 0.5 lux

height(m)	90°/-	90°/270°	0°/90 °	0°/180°	0°/-
2.0	1.9	4.6	4.6	4.6	1.9
2.5	1.8	4.9	4.9	5.0	1.9
3.0	-	4.2	4.1	4.2	-
4.0	-	-	-	-	-
5.0	-	-	-	-	-
6.0	-	-	-	-	-
8.0	-	-	-	-	-
10.0	-	-	-	-	-

Maximum Permitted Spacing (in metres) to achieve 1 lux

height(m)	90°/-	90°/270°	0°/90 °	0°/180°	0°/-
2.0	-	3.6	3.6	3.7	-
2.5	-	2.2	2.2	2.2	-
3.0	-	-	-	-	-
4.0	-	-	-	-	-
5.0	-	-	-	-	-
6.0	-	-	-	-	-
8.0	-	-	-	-	-
10.0	-	-	-	-	-

It is recommended that the calculation of luminaire layouts for open area (anti panic) lighting should be performed using lighting design programs.