

filename : Horizontal Back to Back Bubble Wafer Suspension 1160mm.LDT  
 meas. number : 2361/2545/H  
 luminaire number : Horizontal Back to Back Wafer Suspension 1160mm  
 date / operator : 11-08-2017

**default lamp type(s)**

no of lamps	lamp type	luminaire lumens	input wattage
1	2XLED MODULES	5760 lm	56.8 W

**dimensions**

luminaire		luminous area	
length	: 1160 mm	length	: 1160 mm
width	: 65 mm	width	: 60 mm
height	: 30 mm	height	: 5 mm

**coordinate system**

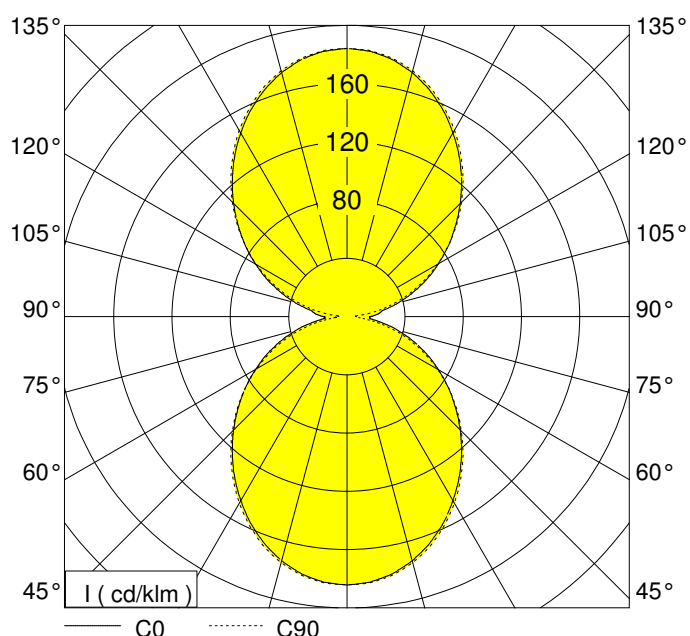
no of planes	: 7	samples / plane	: 37
first c-plane	: 0.0 °	first gamma-angle	: 0.0 °
step angle	: 15.0 °	step angle	: 5.0 °
last c-plane	: 90.0 °	last gamma-angle	: 180.0 °
symmetrics : symmetry to C0 / C90			

**performance**

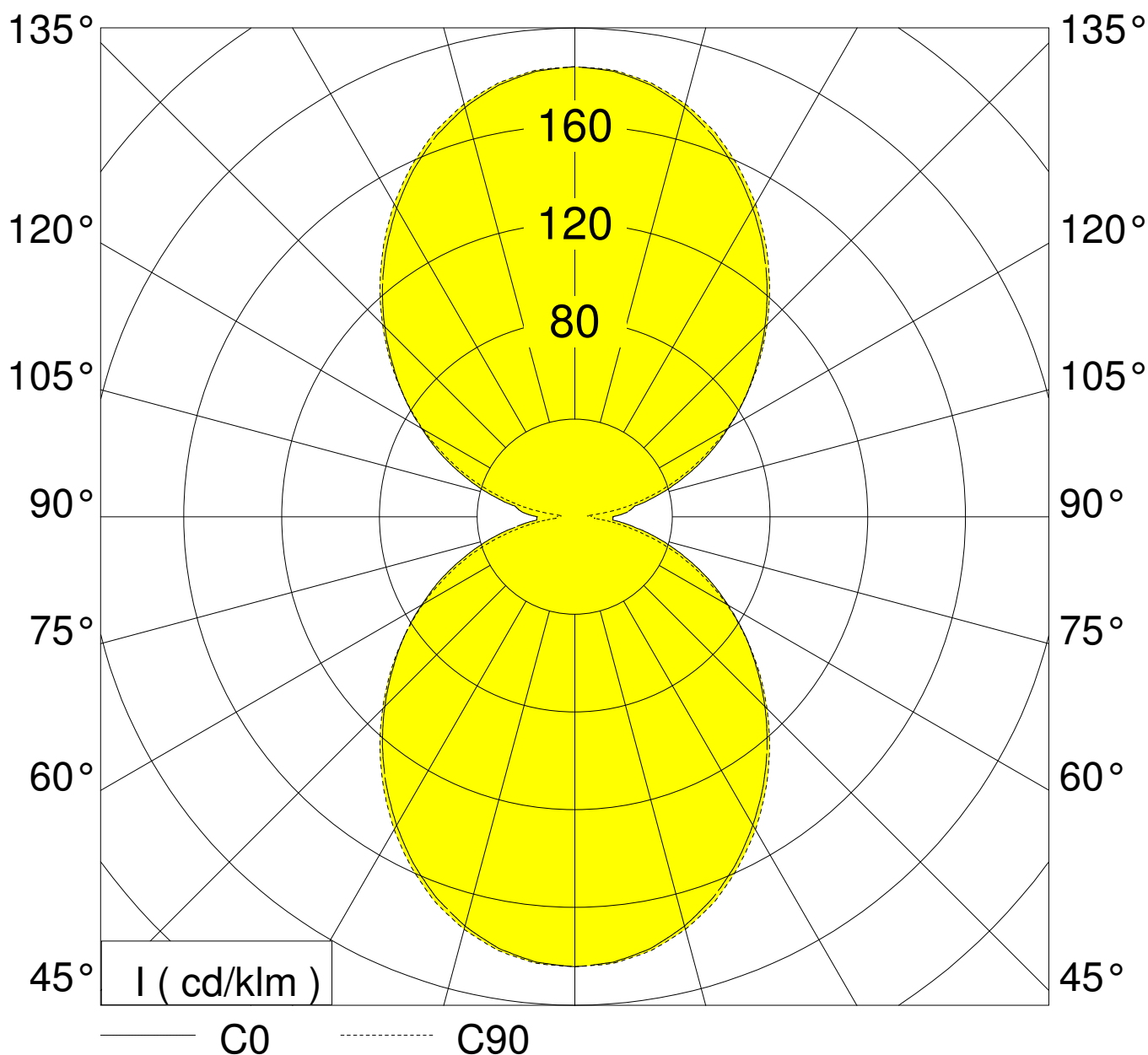
light output ratio	: 100.0 %
DFF	: 49.9 %
UFF	: 50.1 %

**classification**

LITG / DIN	: C43
UTE	: 0.50D+0.50T 0.50E+0.50T
CIE	: 47 77 94 50 100
BZ	: 4 4 4 4 5 5 5 5 5
Ambient Temperature	: 25 degC
Input Voltage	: 240 V
Circuit Watts	: 56.8W
Amps (running)	: 0.243A
V.A.	: 58.59VA
Power Factor	: 0.97
CCT	: 3897K (measured): 4000K (declared)
CRI (Ra)	: 86
Luminaire Lumens	: 5760 LLm
Output Current DC	: 2x1040mA
Output Voltage DC	: 23.7V
Output Power	: 49.3W
Luminaire Lm/circ.Watt	: 101.4 LLm/circ.Watt
Driver Efficiency	: 87%
Driver Details	: 2xHARVARD LL 1X30-E-CV24



Measurements made are in absolute units. The luminaire is treated as if it was a lamp as it is not possible to measure each LED separately - hence an LOR of 100%  
The Light output ratio in real terms would be less than 100%. If it was possible to compare real LED lumens with the total output from the luminaire we could obtain an actual LOR  
This also means that the total lumens emitted from the LED's would be greater than the Luminaire Lumens measured. In reality the LED lumens would approximate to this value divided by the actual Light Output.



	C 0.0	C 15.0	C 30.0	C 45.0	C 60.0	C 75.0	C 90.0
0.0°	184.10	184.10	184.10	184.10	184.10	184.10	184.10
5.0°	182.90	182.90	182.90	183.10	183.20	183.30	183.40
10.0°	179.30	179.40	179.50	179.80	180.10	180.20	180.20
15.0°	173.40	173.60	173.80	174.20	174.50	174.70	174.80
20.0°	165.70	166.00	166.30	166.70	167.10	167.30	167.50
25.0°	156.40	156.70	157.00	157.40	157.90	158.10	158.20
30.0°	145.70	146.20	146.70	147.10	147.50	147.60	147.80
35.0°	134.40	134.80	135.20	135.60	136.00	136.10	136.20
40.0°	122.40	123.10	123.70	123.90	124.10	124.10	124.00
45.0°	110.00	110.70	111.30	111.50	111.70	111.40	111.20
50.0°	97.30	98.10	99.00	99.00	99.00	98.60	98.30
55.0°	85.20	85.70	86.30	86.10	85.90	85.50	85.00
60.0°	72.40	73.10	73.80	73.50	73.30	72.60	71.80
65.0°	60.30	60.60	61.00	60.60	60.10	59.10	58.10
70.0°	47.80	48.40	48.80	48.10	47.30	46.10	44.90
75.0°	36.20	36.30	36.30	35.30	34.30	32.80	31.30
80.0°	24.90	24.90	24.90	23.60	22.40	20.60	19.00
85.0°	15.60	15.30	15.00	13.50	12.10	10.10	8.00
90.0°	15.60	15.30	15.00	13.50	12.10	10.10	8.00
95.0°	21.50	20.80	20.10	16.40	12.70	8.70	4.50
100.0°	24.90	24.90	24.90	23.60	22.40	20.60	19.00
105.0°	36.20	36.30	36.30	35.30	34.30	32.80	31.30
110.0°	47.80	48.40	48.80	48.10	47.30	46.10	44.90
115.0°	60.30	60.60	61.00	60.60	60.10	59.10	58.10
120.0°	72.40	73.10	73.80	73.50	73.30	72.60	71.80
125.0°	85.20	85.70	86.30	86.10	85.90	85.50	85.00
130.0°	97.30	98.10	99.00	99.00	99.00	98.60	98.30
135.0°	110.00	110.70	111.30	111.50	111.70	111.40	111.20
140.0°	122.40	123.10	123.70	123.90	124.10	124.10	124.00
145.0°	134.40	134.80	135.20	135.60	136.00	136.10	136.20
150.0°	145.70	146.20	146.70	147.10	147.50	147.60	147.80
155.0°	156.40	156.70	157.00	157.40	157.90	158.10	158.20
160.0°	165.70	166.00	166.30	166.70	167.10	167.30	167.50
165.0°	173.40	173.60	173.80	174.20	174.50	174.70	174.80
170.0°	179.30	179.40	179.50	179.80	180.10	180.20	180.20
175.0°	182.90	182.90	182.90	183.10	183.20	183.30	183.40
180.0°	184.10	184.10	184.10	184.10	184.10	184.10	184.10
	cd / klm						

glare rating according to UGR											
ρ-ceiling		70	70	50	50	30	70	70	50	50	30
ρ-walls		50	30	50	30	30	50	30	50	30	30
ρ-workplane		20	20	20	20	20	20	20	20	20	20
room dimensions X                      Y		viewed crosswise					viewed endwise				
2H	2H	17.9	18.8	18.7	19.7	20.8	18.1	19.0	18.9	19.9	21.0
	3H	19.9	20.9	20.9	22.0	23.6	20.1	21.1	21.1	22.2	23.8
	4H	20.5	21.5	21.7	22.7	24.5	20.7	21.7	21.8	22.9	24.7
	6H	21.1	22.0	22.3	23.3	25.2	21.1	22.0	22.3	23.3	25.3
	8H	21.3	22.2	22.5	23.5	25.6	21.3	22.2	22.6	23.6	25.6
	12H	21.5	22.4	22.8	23.8	25.9	21.5	22.4	22.7	23.7	25.8
4H	2H	19.0	20.0	20.1	21.2	23.0	19.2	20.1	20.3	21.4	23.1
	3H	20.8	21.7	22.1	23.1	25.2	21.0	21.9	22.2	23.2	25.3
	4H	21.7	22.6	23.0	24.0	26.3	21.8	22.7	23.1	24.1	26.4
	6H	22.2	22.9	23.5	24.3	26.6	22.2	22.9	23.6	24.4	26.7
	8H	22.5	23.1	23.9	24.6	27.1	22.4	23.1	23.8	24.6	27.1
	12H	22.8	23.4	24.3	25.1	28.0	22.7	23.3	24.2	24.9	27.9
8H	4H	21.8	22.5	23.3	24.0	26.5	21.9	22.6	23.3	24.1	26.6
	6H	22.9	23.5	24.5	25.2	28.3	22.8	23.5	24.4	25.2	28.3
	8H	23.3	23.9	25.0	25.7	29.2	23.2	23.8	24.9	25.6	29.1
	12H	23.6	24.0	25.3	25.8	29.3	23.4	23.8	25.1	25.6	29.1
12H	4H	22.0	22.6	23.5	24.2	27.2	22.1	22.7	23.6	24.3	27.3
	6H	23.0	23.6	24.7	25.4	28.9	23.0	23.6	24.7	25.4	28.8
	8H	23.4	23.8	25.1	25.6	29.1	23.3	23.7	25.0	25.5	29.0
variation of observer position											
S =	1.0H	+0.1/                      -0.1				+0.1/                      -0.1					
	1.5H	+0.2/                      -0.3				+0.2/                      -0.3					
	2.0H	+0.3/                      -0.5				+0.3/                      -0.5					
standard-table		BK06					BK06				
correction for luminaire		6.0					6.0				
correct glare indices for a total flux of 5760lm											

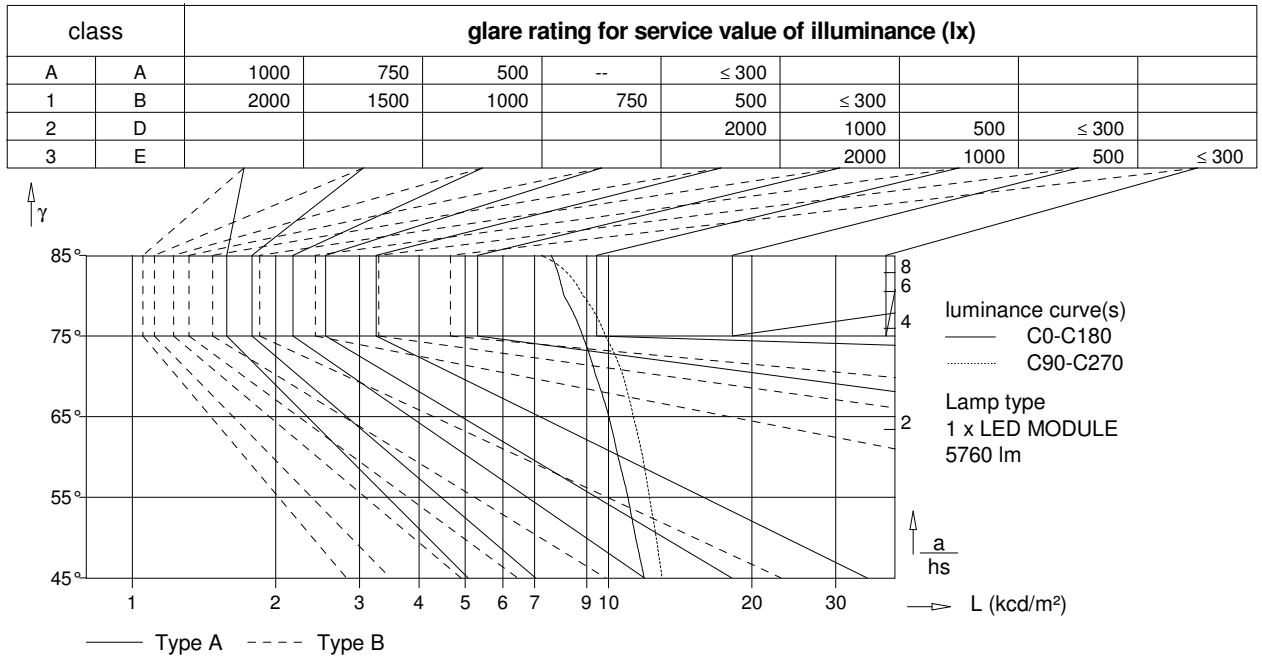


Table of intensities

gamma	C 0	C 90	C 180	C 270
45°	11883.9	12958.8	11883.9	12958.8
50°	11395.6	12591.4	11395.6	12591.4
55°	10985.7	12189.2	10985.7	12189.2
60°	10472.0	11796.1	10472.0	11796.1
65°	10017.9	11273.1	10017.9	11273.1
70°	9411.4	10737.3	9411.4	10737.3
75°	8829.2	9849.9	8829.2	9849.9
80°	8058.5	8839.1	8058.5	8839.1
85°	7586.6	7239.7	7586.6	7239.7

all values in cd/m²

<b>utilization factors / TM5</b>											
reflection			room index								
C	W	F	0.75	1.0	1.25	1.5	2.0	2.5	3.0	4.0	5.0
70	50	20	47	55	62	66	73	77	80	84	87
70	30	20	41	48	55	60	67	72	75	80	83
70	10	20	36	43	50	55	62	68	71	77	80
50	50	20	41	48	53	57	62	65	68	71	73
50	30	20	36	42	48	52	58	62	65	68	71
50	10	20	32	38	44	48	54	59	62	66	69
30	50	20	36	41	45	48	52	55	57	59	61
30	30	20	31	37	41	44	49	52	54	58	60
30	10	20	28	34	38	42	46	50	52	56	58
0	0	0	22	26	29	31	35	37	39	41	43
BZ-class			4	4	4	4	5	5	5	5	5
SHRnom : 1.50						SHRmax : 1.505					

