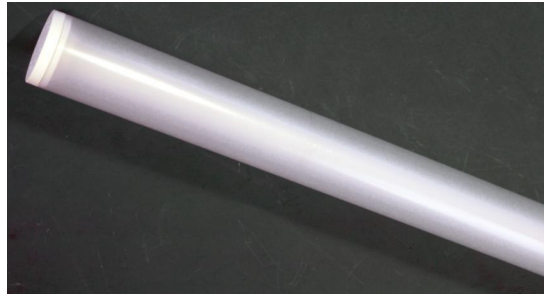


filename : MT360-LED-10
 meas. number : 2893
 luminaire number : MT360- LED-10
 date / operator : 07-03-2019

**default lamp type(s)**

no of lamps	lamp type	luminaire lumens	inputwattage
1	LED MODULE	1105 lm	18.8 W

dimensions

luminaire		luminous area	
length	: 1025 mm	length	: 1005 mm
width	: 68 mm	width	: 68 mm
height	: 68 mm	height	: 68 mm

coordinate system

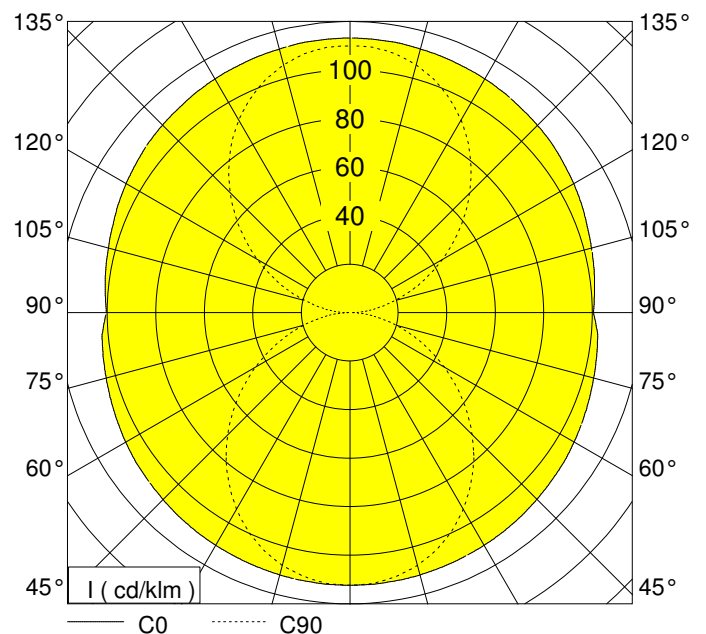
no of planes	: 7	samples / plane	: 37
first c-plane	: 0.0 °	first gamma-angle	: 0.0 °
step angle	: 15.0 °	step angle	: 5.0 °
last c-plane	: 90.0 °	last gamma-angle	: 180.0 °
symmetrics : symmetry to C0 / C90			

performance

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

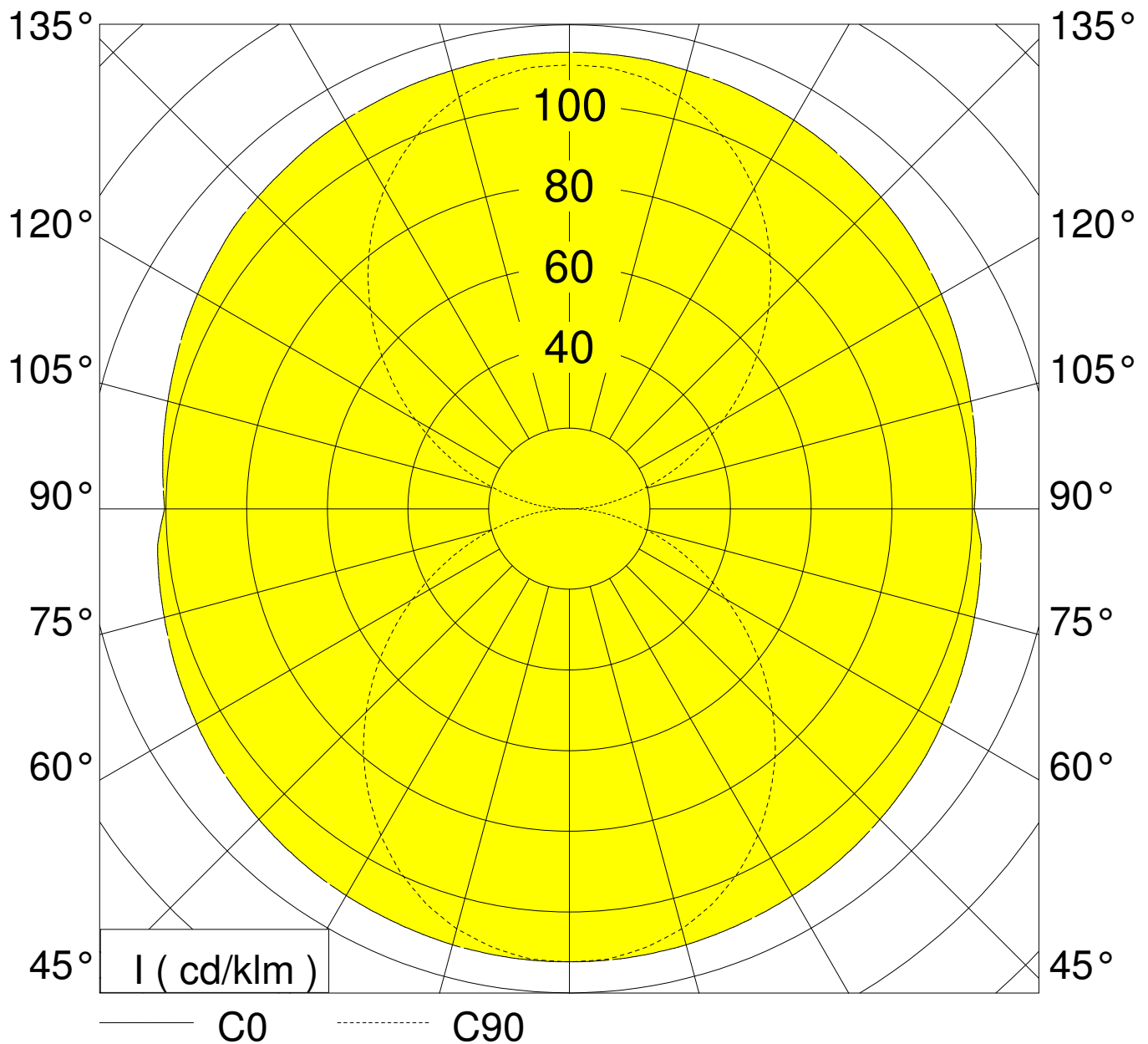
classification

LITG / DIN	: C22
UTE	: 0.50H+0.50T
CIE	: 32 59 81 50 100
BZ	: 1 6 6 6 6 6 6 6
Ambient Temperature	: 25 degC
Input Voltage	: 240 V
Circuit Watts	: 18.8W
Amps (running)	: 0.082A
V.A.	: 19.79VA
Power Factor	: 0.95
CCT	: 4208K (measured): 4200K (declared)
CRI (Ra)	: 93
S/P Ratio	: 1.9
Luminaire Lumens	: 1105 LLm
Output Current DC	: 650mA
Output Voltage DC	: 23.9V
Output Power	: 15.54W
Luminaire Lm/circ.Watt	: 59 LLm/circ.Watt
Driver Efficiency	: 83%
Driver Details	: HELVAR LL1X30-E-CV240



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°	112.20	112.20	112.20	112.20	112.20	112.20	112.20
5.0°	112.20	112.00	111.90	111.90	111.90	111.90	111.90
10.0°	112.00	111.60	111.20	110.90	110.50	110.40	110.20
15.0°	111.80	111.00	110.20	109.30	108.50	108.10	107.70
20.0°	111.40	110.10	108.80	107.20	105.50	104.70	104.00
25.0°	111.00	109.10	107.30	104.50	101.70	100.50	99.20
30.0°	110.60	108.20	105.60	101.50	97.40	95.40	93.40
35.0°	110.10	106.90	103.60	98.00	92.30	89.40	86.60
40.0°	109.50	105.60	101.60	94.20	86.80	83.10	79.40
45.0°	108.80	104.10	99.30	90.30	81.20	76.30	71.20
50.0°	108.10	102.60	97.20	86.10	75.10	68.90	62.70
55.0°	107.50	101.30	95.00	82.00	69.10	61.50	53.80
60.0°	106.60	99.70	92.80	77.90	63.20	54.00	44.90
65.0°	105.70	98.20	90.70	74.30	57.70	46.80	36.00
70.0°	104.80	96.80	88.70	70.70	52.50	40.10	27.50
75.0°	103.90	95.40	86.90	67.40	47.80	33.60	19.30
80.0°	103.20	94.30	85.40	64.70	44.00	28.00	12.00
85.0°	102.40	93.30	84.20	62.70	41.10	23.60	6.10
90.0°	100.30	91.10	81.90	60.60	39.20	21.00	0.00
95.0°	101.10	92.00	82.90	61.40	39.90	22.90	5.90
100.0°	102.10	93.20	84.30	63.60	42.90	27.30	11.70
105.0°	103.00	94.50	86.00	66.50	47.00	32.90	18.70
110.0°	104.00	96.00	88.00	69.90	51.70	39.40	27.00
115.0°	105.30	97.80	90.30	73.60	56.90	46.10	35.30
120.0°	106.40	99.50	92.70	77.60	62.60	53.30	44.00
125.0°	107.40	101.20	94.90	81.70	68.60	60.60	52.70
130.0°	108.50	102.90	97.30	86.00	74.90	68.10	61.40
135.0°	109.20	104.50	99.70	90.30	80.80	75.30	69.70
140.0°	109.80	106.00	102.00	94.40	86.70	82.10	77.60
145.0°	110.60	107.50	104.20	98.20	92.30	88.70	85.00
150.0°	111.20	108.70	106.20	101.80	97.50	94.50	91.60
155.0°	111.60	109.80	108.10	105.10	102.00	99.60	97.20
160.0°	112.10	110.90	109.60	107.80	105.80	103.90	102.00
165.0°	112.40	111.70	111.00	109.80	108.70	107.20	105.60
170.0°	112.90	112.40	112.00	111.50	111.10	109.60	108.30
175.0°	113.00	112.90	112.80	112.60	112.30	111.00	109.70
180.0°	113.10	113.10	113.10	113.00	112.90	111.40	109.90
	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	10.8	11.8	11.6	12.7	13.8	9.0	10.1	9.9	10.9	12.0
	3H	13.9	15.1	15.0	16.3	18.0	11.1	12.3	12.2	13.5	15.3
	4H	15.2	16.4	16.4	17.6	19.6	11.8	12.9	12.9	14.2	16.1
	6H	16.6	17.6	17.8	19.0	21.1	12.2	13.3	13.5	14.6	16.7
	8H	17.3	18.4	18.6	19.7	21.9	12.5	13.5	13.7	14.9	17.0
	12H	18.0	19.1	19.3	20.5	22.7	12.6	13.7	13.9	15.1	17.3
4H	2H	11.9	13.0	13.1	14.3	16.2	10.6	11.7	11.8	13.0	14.9
	3H	14.8	15.8	16.1	17.2	19.5	12.4	13.5	13.7	14.9	17.1
	4H	16.4	17.4	17.7	18.9	21.4	13.4	14.4	14.7	15.8	18.3
	6H	17.8	18.6	19.1	20.1	22.5	13.9	14.7	15.2	16.2	18.6
	8H	18.6	19.4	20.0	20.9	23.4	14.2	14.9	15.6	16.5	19.0
	12H	19.5	20.2	21.0	21.9	24.8	14.5	15.2	16.0	16.9	19.8
8H	4H	16.6	17.3	18.0	18.9	21.4	14.1	14.9	15.5	16.4	18.9
	6H	18.6	19.3	20.1	21.0	24.2	15.2	16.0	16.8	17.7	20.9
	8H	19.6	20.3	21.3	22.1	25.6	15.8	16.5	17.4	18.3	21.7
	12H	20.5	21.1	22.2	22.9	26.3	16.1	16.6	17.7	18.4	21.8
12H	4H	16.7	17.4	18.2	19.1	22.1	14.4	15.2	15.9	16.8	19.8
	6H	18.8	19.5	20.4	21.3	24.7	15.7	16.4	17.4	18.2	21.7
	8H	19.7	20.3	21.4	22.1	25.5	16.2	16.8	17.9	18.6	22.0
variation of observer position											
S =	1.0H	+0.1/ -0.1				+0.1/ -0.1					
	1.5H	+0.2/ -0.2				+0.2/ -0.2					
	2.0H	+0.2/ -0.2				+0.2/ -0.4					
standard-table		BK12					BKFF				
correction for luminaire		4.2					-1.2				
correct glare indices for a total flux of 1105lm											

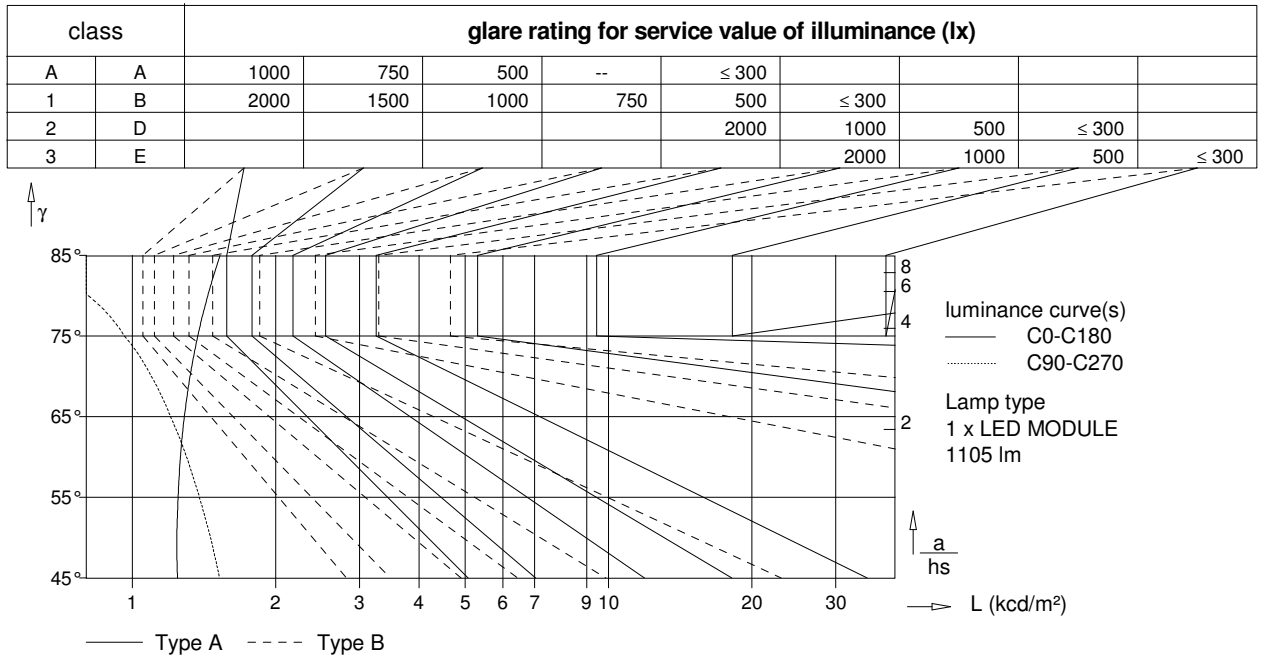


Table of intensities

gamma	C 0	C 90	C 180	C 270
45°	1243.9	1524.9	1243.9	1524.9
50°	1240.7	1459.5	1240.7	1459.5
55°	1248.0	1383.0	1248.0	1383.0
60°	1261.8	1299.7	1261.8	1299.7
65°	1286.1	1202.8	1286.1	1202.8
70°	1322.1	1096.3	1322.1	1096.3
75°	1371.7	962.6	1371.7	962.6
80°	1440.4	807.5	1440.4	807.5
85°	1528.3	638.1	1528.3	638.1

all values in cd/m²

utilization factors / TM5											
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	N/A	50	56	61	67	72	75	80	83
70	30	20	N/A	43	49	54	61	66	70	75	79
70	10	20	N/A	37	43	48	55	61	65	71	75
50	50	20	N/A	42	47	51	57	60	63	67	69
50	30	20	N/A	37	42	46	52	56	59	63	66
50	10	20	N/A	32	37	41	47	52	55	60	63
30	50	20	N/A	35	39	42	47	50	52	55	57
30	30	20	N/A	31	35	38	43	46	49	52	55
30	10	20	N/A	27	31	35	40	43	46	50	53
0	0	0	N/A	19	22	24	28	30	32	35	37
BZ-class			1	6	6	6	6	6	6	6	6
SHRnom : 1.75						SHRmax : 1.827					

