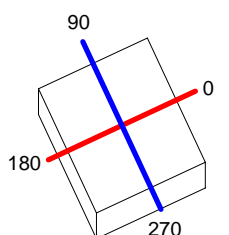


Luminaire		Measurem.		Lamp		
Code	5440	Code	5440	Code	66748 ECO	
Name	4 ceiling lamp hal.	Name	4 ceiling lamp hal.	Number	4	
Line	VIBIA-Puck	Date	05-06-2012	Position	Universal	
Efficiency	46.01%	Coordinate system	C-G	Total Flux	2960.00 lm	
Maximum value	121.09 cd/klm	Position	C=30.00 G=5.00	Double Symmetrical		
Rectangular Luminaire	Length	607 mm	Width	532 mm	Height	110 mm
Rectangular Luminous Area	Length	607 mm	Width	532 mm	Height	95 mm
Horizontal Luminous Area	0.322924 m2	Emitting area on Plane 180°		0.057665 m2		
Emitting area on Plane 0°	0.057665 m2	Emitting area on Plane 270°		0.050540 m2		
Emitting area on Plane 90°	0.050540 m2	Glare area at 76°		0.134074 m2		
Symmetry Type	Double Symmetrical	Maximum Gamma Angle		180		
Measurement Distance	6.44	Measurement Flux		2960.00 lm		
Operator	Asselum T2	Source voltage		230.00 V		
Temperature	24.00 °C	Source current		PRC		
Humidity	54.00 %	Photocell				
Notes						

Luminaire Lamps					
Line	Code	Name	Fluxlm	Pow.W	Qta
OSRAM 2006 HS, HM, HD, HR	66748 ECO	HALOPIN® ECO 48W G9	740.00	48.00	4
C.I.E.	43 73 91 82 46	D DIN 5040		B31	
F UTE	0.38 G + 0.08 T	B NBN		BZ 5	

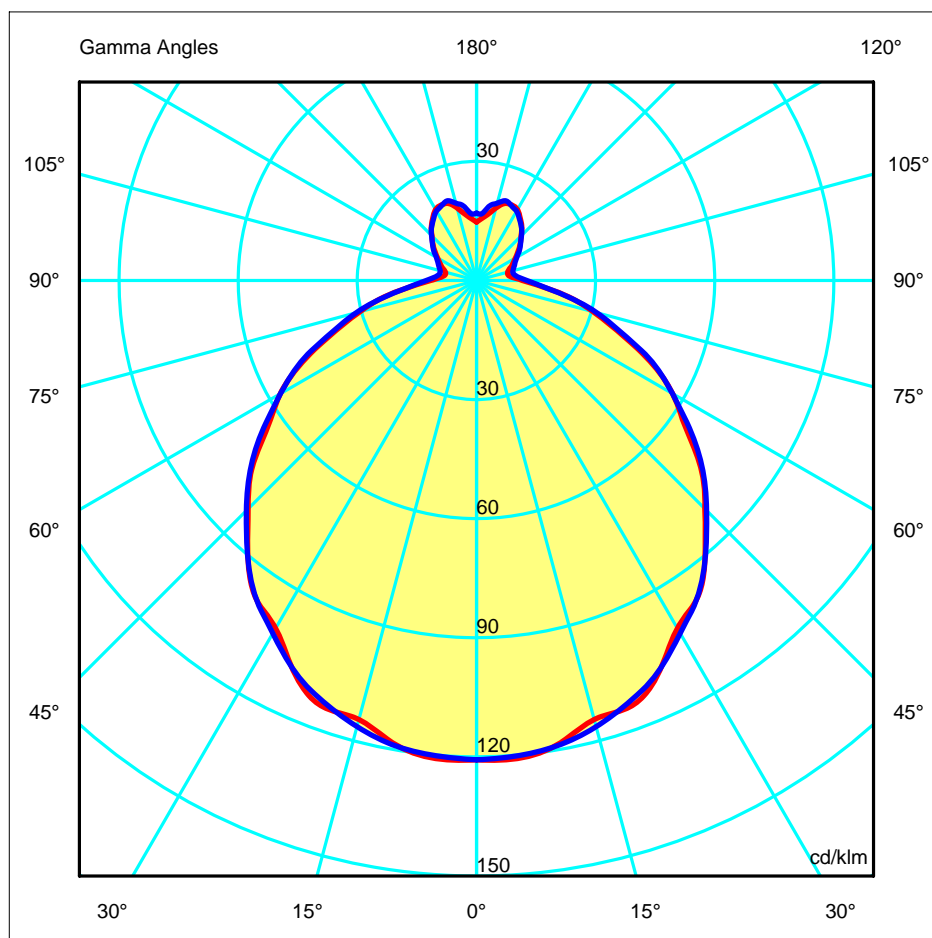
607mm x 532mm



C Halfplanes

180.0 — 0.0
 270.0 — 90.0

ULOR 8.39 %
 DLOR 37.61 %
 RN 18.24 %

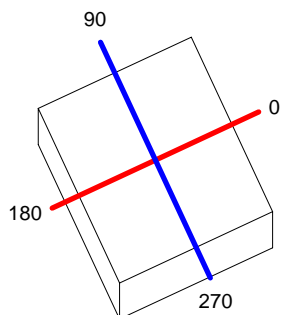


Luminaire		Measurem.				Lamp	
Code	5440	Code	5440			Code	66748 ECO
Name	4 ceiling lamp hal.	Name	4 ceiling lamp hal.			Number	4
Line	VIBIA-Puck	Date	05-06-2012			Position	Universal
Efficiency	46.01%	Coordinate system		C-G	Total Flux		2960.00 lm
Luminous Intensity Table cd/klm				Table 1/1			
	C 0.00	C 15.00	C 30.00	C 45.00	C 60.00	C 75.00	C 90.00
G 0.0	120.74	120.74	120.74	120.74	120.74	120.74	120.74
G 5.0	120.82	119.69	121.09	119.37	119.58	120.15	120.09
G 10.0	118.56	117.26	118.36	117.24	117.39	118.50	118.92
G 15.0	114.47	115.52	116.14	115.45	115.26	116.30	116.31
G 20.0	114.06	110.84	114.66	111.30	112.95	112.76	112.87
G 25.0	108.81	107.58	108.70	108.57	108.45	108.11	108.55
G 30.0	101.13	103.14	104.85	102.34	101.79	103.07	102.59
G 35.0	97.21	95.97	97.18	96.72	95.94	96.23	97.12
G 40.0	89.59	88.91	91.90	89.05	89.87	89.36	89.75
G 45.0	81.34	81.04	82.13	81.07	81.28	82.46	81.94
G 50.0	73.87	73.37	74.19	74.08	73.77	73.06	74.42
G 55.0	64.15	64.87	66.90	65.36	64.32	65.24	65.72
G 60.0	57.08	56.30	58.39	56.01	56.43	56.73	56.92
G 65.0	48.22	47.24	49.56	47.67	47.98	47.54	48.98
G 70.0	38.31	39.21	40.90	39.40	39.34	39.67	39.20
G 75.0	30.47	30.60	32.36	31.49	31.15	30.94	31.42
G 80.0	23.52	22.25	25.27	24.11	23.45	23.48	23.20
G 85.0	16.24	15.85	17.98	17.61	16.65	18.17	16.54
G 90.0	11.56	11.47	13.12	13.59	12.95	13.35	12.66
G 95.0	9.11	9.16	10.56	10.64	10.29	10.95	10.45
G100.0	8.07	8.01	8.98	9.41	9.36	9.70	9.49
G105.0	8.10	8.04	8.62	9.04	9.30	9.50	9.47
G110.0	9.03	8.78	9.09	9.54	9.72	9.91	10.04
G115.0	10.18	10.27	10.10	10.41	10.46	10.72	10.72
G120.0	11.23	11.55	11.39	11.48	11.50	11.75	11.67
G125.0	12.86	12.83	12.80	13.02	12.93	12.91	13.19
G130.0	14.37	14.27	14.29	14.46	14.39	14.51	14.49
G135.0	15.86	15.84	15.85	15.93	15.83	15.93	16.02
G140.0	17.75	17.72	17.41	17.55	17.27	17.34	17.60
G145.0	19.18	19.25	18.76	18.68	18.49	18.90	18.87
G150.0	20.65	20.28	20.23	19.70	19.71	19.92	20.20
G155.0	20.99	21.08	20.60	20.30	20.02	20.26	20.79
G160.0	20.64	21.18	21.42	20.69	21.01	19.92	21.37
G165.0	18.93	20.10	21.28	20.45	20.74	20.52	20.18
G170.0	16.98	17.80	19.00	18.15	17.62	18.85	19.09
G175.0	15.71	14.86	15.18	16.41	16.38	17.25	16.98
G180.0	14.72	15.09	16.61	16.81	16.09	16.80	16.99

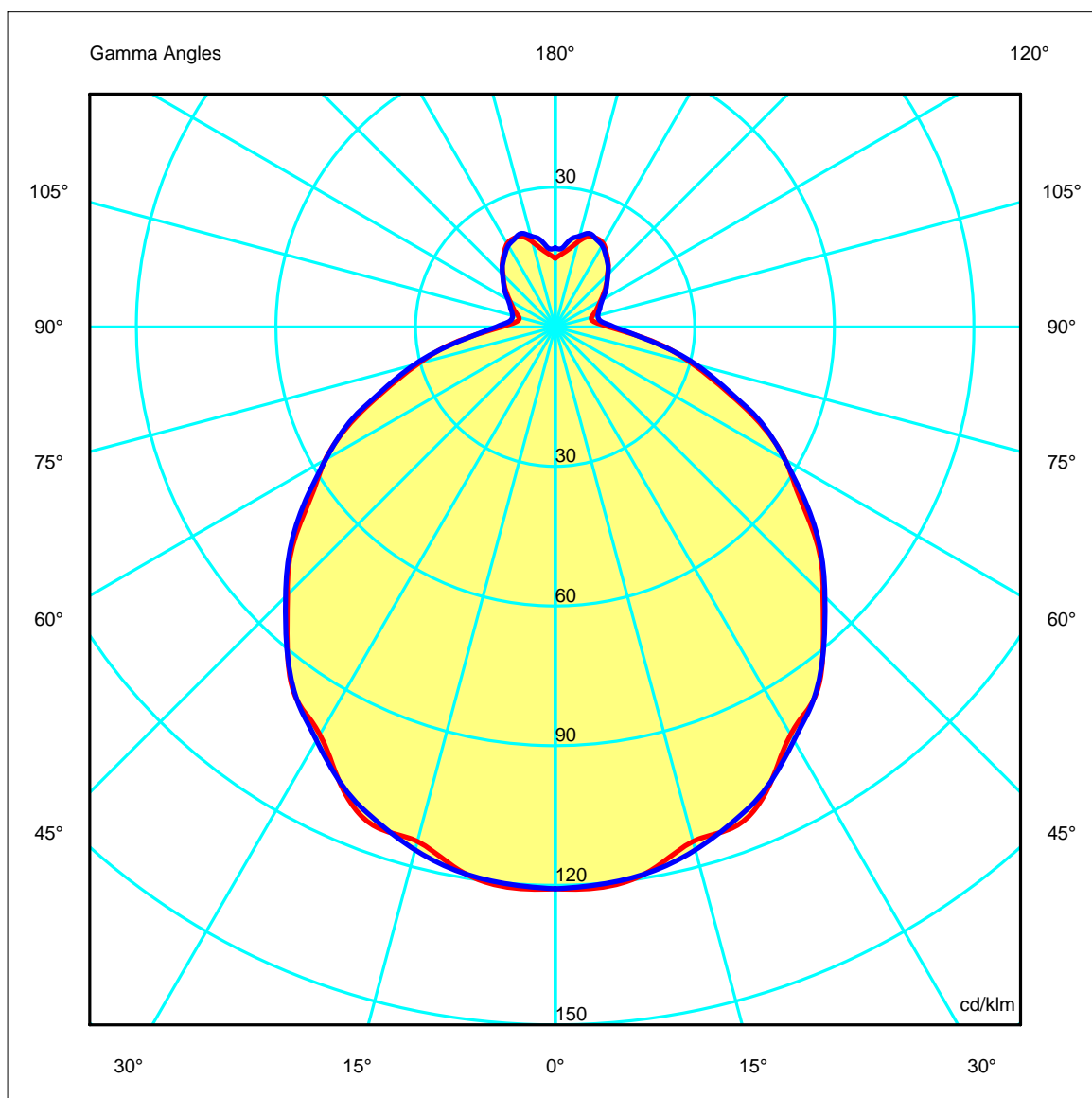
Luminaire		Measurem.		Lamp	
Code	5440	Code	5440	Code	66748 ECO
Name	4 ceiling lamp hal.	Name	4 ceiling lamp hal.	Number	4
Line	VIBIA-Puck	Date	05-06-2012	Position	Universal
Efficiency	46.01%	Coordinate system	C-G	Total Flux	2960.00 lm

607mm x 532mm

C Halfplanes

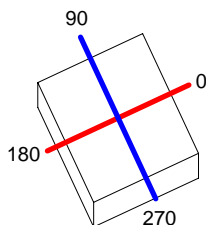


180.0 ————— 0.0
 270.0 ————— 90.0



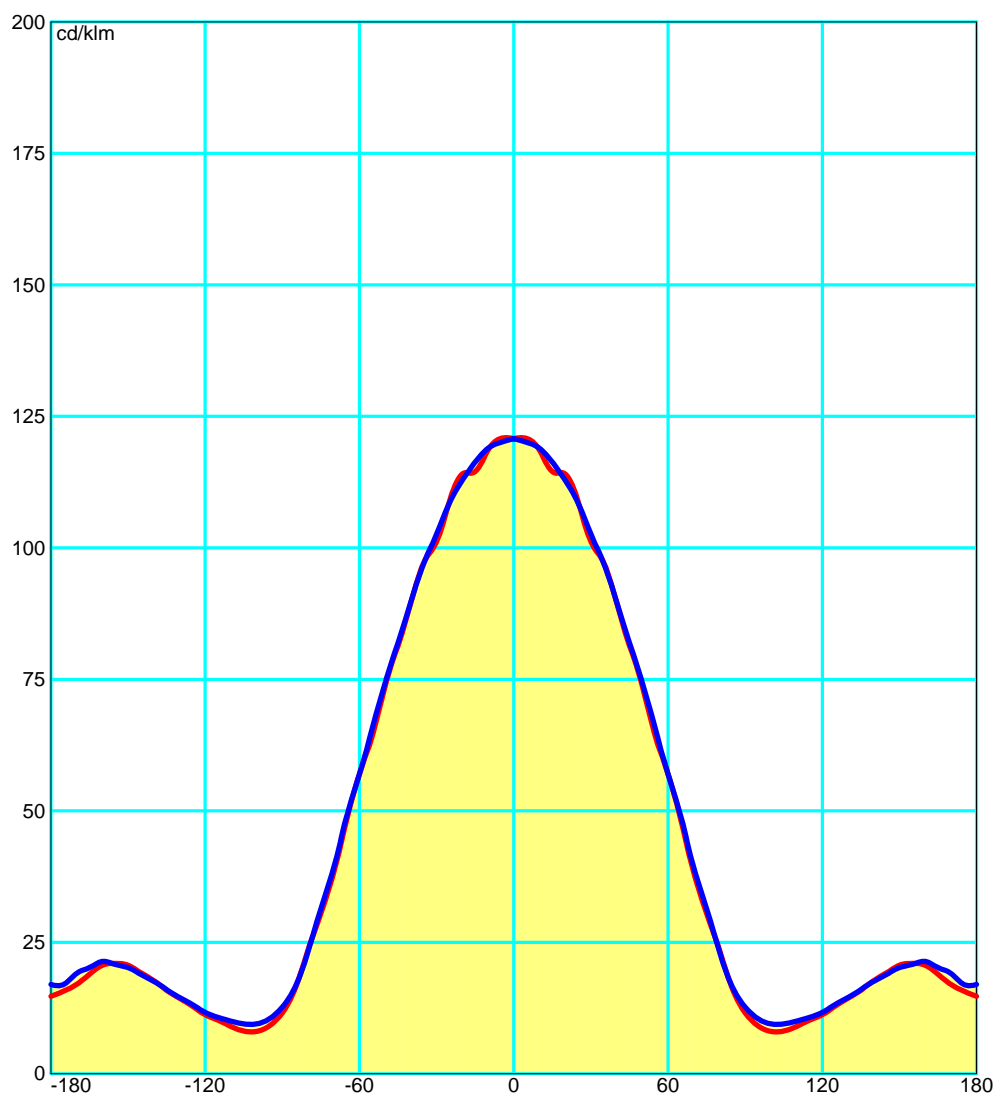
Luminaire		Measurem.		Lamp	
Code	5440	Code	5440	Code	66748 ECO
Name	4 ceiling lamp hal.	Name	4 ceiling lamp hal.	Number	4
Line	VIBIA-Puck	Date	05-06-2012	Position	Universal
Efficiency	46.01%	Coordinate system	C-G	Total Flux	2960.00 lm

607mm x 532mm



C Halfplanes

180.0 ————— 0.0
 270.0 ————— 90.0

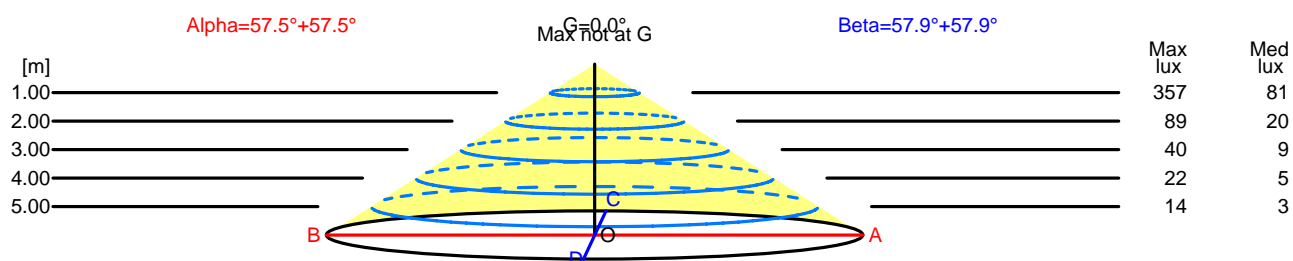


Luminaire		Measurem.		Lamp	
Code	5440	Code	5440	Code	66748 ECO
Name	4 ceiling lamp hal.	Name	4 ceiling lamp hal.	Number	4
Line	VIBIA-Puck	Date	05-06-2012	Position	Universal
Efficiency	46.01%	Coordinate system	C-G	Total Flux	2960.00 lm

Width at 50.00 % of MaxLux

H[m]	1.00	2.00	3.00	4.00	5.00	H[m]	1.00	2.00	3.00	4.00	5.00
OA	1.57	3.14	4.71	6.28	7.85	OC	1.59	3.19	4.78	6.38	7.97
OB	1.57	3.14	4.71	6.28	7.85	OD	1.59	3.19	4.78	6.38	7.97

	Luminous Intensities [cd/klm]									
	0	5	15	25	35	45	55	65	75	85
OA	120.74	120.82	114.47	108.81	97.21	81.34	64.15	48.22	30.47	16.24
OB	120.74	120.82	114.47	108.81	97.21	81.34	64.15	48.22	30.47	16.24
OC	120.74	120.09	116.31	108.55	97.12	81.94	65.72	48.98	31.42	16.54
OD	120.74	120.09	116.31	108.55	97.12	81.94	65.72	48.98	31.42	16.54



H[m]	D[m]	Max lux	Med lux	Alpha=57.5°+57.5°	G=0.0° Max not at G	
1.00	3.14	357	81			
2.00	6.28	89	20			
3.00	9.42	40	9			
4.00	12.56	22	5			
5.00	15.70	14	3			

H[m]	D[m]	Max lux	Med lux	Beta=57.9°+57.9°	G=0.0° Max not at G	
1.00	3.19	357	81			
2.00	6.38	89	20			
3.00	9.56	40	9			
4.00	12.75	22	5			
5.00	15.94	14	3			

Luminaire		Measur.		Lamp	
Code	5440	Code	5440	Code	66748 ECO
Name	4 ceiling lamp hal.	Name	4 ceiling lamp hal.	Number	4
Line	VIBIA-Puck	Date	05-06-2012	Position	Universal
Efficiency	46.01%	Coordinate system	C-G	Total Flux	2960.00 lm

Total Flux=2960.00 Luminaire Flux=1361.82

RI	0.60	0.80	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00	10.00	20.00
DRR	0.28	0.36	0.43	0.50	0.55	0.64	0.70	0.74	0.79	0.83	0.90	0.95
RC	6	6	6	6	6	6	6	6	6	6	6	6

Zonal Flux per 1000 Lumen

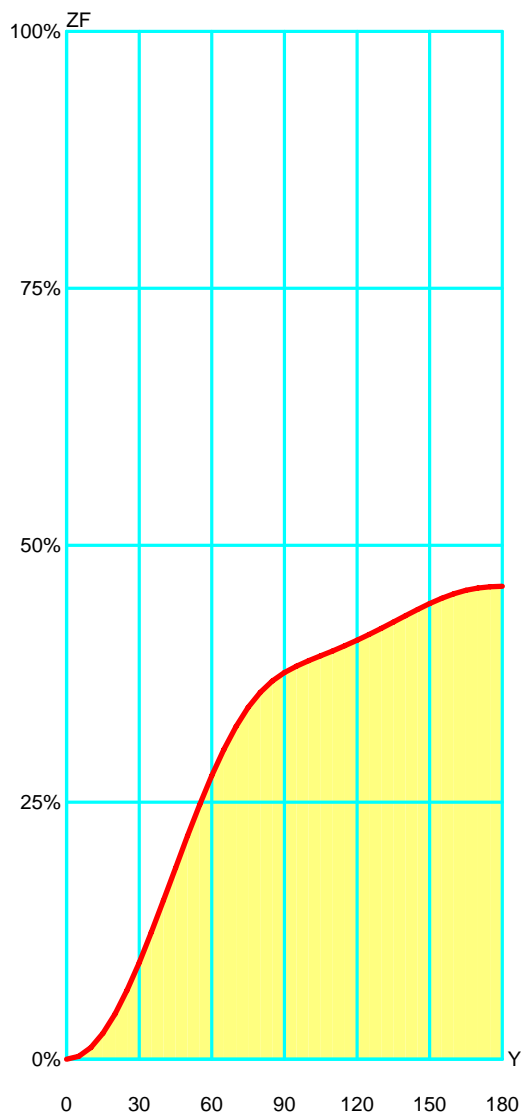
Y°	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
ZF(Y)	11	44	94	154	218	276	324	357	376	388	397	408	419	431	443	453	458	460

CIE Flux Codes

43 73 91 82 46

C.I.E. 6
D DIN 5040 B31
F UTE 0.38 G + 0.08 T
B NBN BZ 5
RN 18.24307 %
BLF 1.0

LOR 46.00754 %
ULOR 8.39319 %
DLOR 37.61436 %
UFF 18.24307 %
DFF 81.75693 %
FFR 22.31379 %



Zonal Flux				
Gamma °	Flux	Sum lm	Flux [%]	Sum [%]
0°	0.00	0.00	0.00 %	0.00 %
5°	2.88	2.88	0.63 %	0.63 %
10°	8.51	11.39	1.85 %	2.48 %
15°	13.86	25.25	3.01 %	5.49 %
20°	18.82	44.07	4.09 %	9.58 %
25°	23.18	67.25	5.04 %	14.62 %
30°	26.73	93.97	5.81 %	20.43 %
35°	29.36	123.33	6.38 %	26.81 %
40°	31.09	154.42	6.76 %	33.56 %
45°	31.74	186.15	6.90 %	40.46 %
50°	31.40	217.55	6.82 %	47.29 %
55°	30.23	247.78	6.57 %	53.86 %
60°	28.22	276.00	6.13 %	59.99 %
65°	25.50	301.50	5.54 %	65.53 %
70°	22.19	323.70	4.82 %	70.36 %
75°	18.50	342.20	4.02 %	74.38 %
80°	14.69	356.89	3.19 %	77.57 %
85°	11.07	367.96	2.41 %	79.98 %
90°	8.18	376.14	1.78 %	81.76 %
95°	6.30	382.44	1.37 %	83.13 %
100°	5.24	387.68	1.14 %	84.26 %
105°	4.80	392.47	1.04 %	85.31 %
110°	4.79	397.26	1.04 %	86.35 %
115°	5.02	402.28	1.09 %	87.44 %
120°	5.33	407.61	1.16 %	88.60 %
125°	5.65	413.26	1.23 %	89.82 %
130°	5.94	419.20	1.29 %	91.11 %
135°	6.12	425.31	1.33 %	92.44 %
140°	6.18	431.50	1.34 %	93.79 %
145°	6.06	437.56	1.32 %	95.11 %
150°	5.73	443.29	1.24 %	96.35 %
155°	5.13	448.42	1.12 %	97.47 %
160°	4.34	452.76	0.94 %	98.41 %
165°	3.40	456.17	0.74 %	99.15 %
170°	2.29	458.46	0.50 %	99.65 %
175°	1.23	459.69	0.27 %	99.92 %
180°	0.39	460.08	0.08 %	100.00 %

Luminaire		Measurem.		Lamp	
Code	5440	Code	5440	Code	66748 ECO
Name	4 ceiling lamp hal.	Name	4 ceiling lamp hal.	Number	4
Line	VIBIA-Puck	Date	05-06-2012	Position	Universal
Efficiency	46.01%	Coordinate system	C-G	Total Flux	2960.00 lm

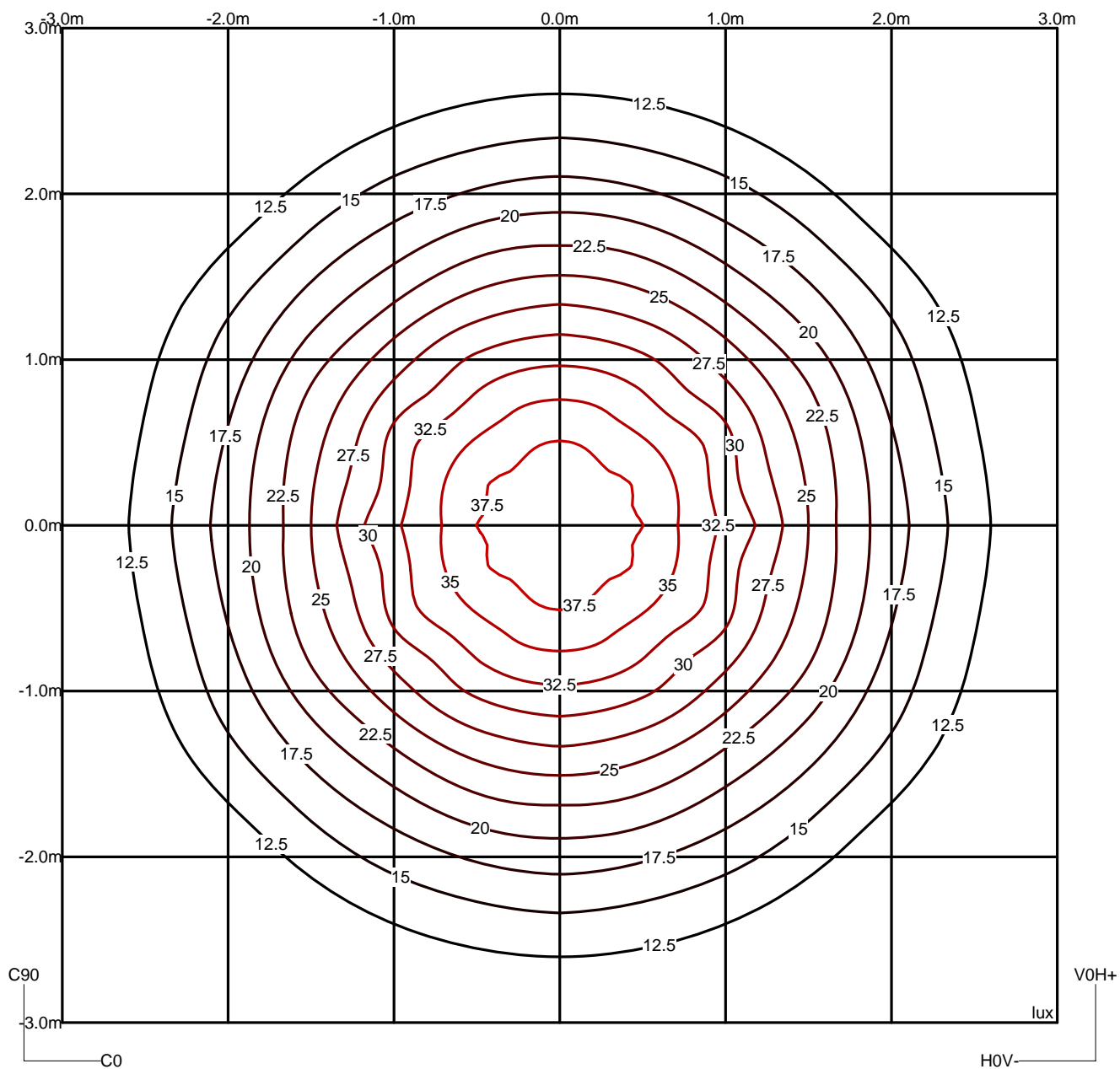
UGR
S = 0.250

Reflectancies										
Ceiling/Cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
WorkingPlane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
RoomDimensions	ViewedCrosswise					ViewedEndwise				
x=2H y=2H	10.5	11.6	11.0	12.2	12.8	10.5	11.7	11.1	12.2	12.8
x=2H y=3H	12.2	13.2	12.7	13.8	14.5	12.2	13.3	12.8	13.9	14.5
x=2H y=4H	12.8	13.8	13.4	14.4	15.2	13.0	13.9	13.6	14.5	15.2
x=2H y=6H	13.5	14.3	14.1	14.9	15.8	13.6	14.5	14.2	15.1	15.8
x=2H y=8H	13.7	14.6	14.3	15.2	16.1	13.9	14.8	14.5	15.4	16.1
x=2H y=12H	13.9	14.8	14.6	15.4	16.3	14.2	15.0	14.8	15.6	16.3
x=4H y=2H	11.2	12.1	11.8	12.7	13.4	11.2	12.2	11.8	12.7	13.4
x=4H y=3H	13.0	13.8	13.6	14.5	15.2	13.1	13.9	13.7	14.5	15.2
x=4H y=4H	13.8	14.6	14.5	15.2	16.0	13.9	14.7	14.6	15.3	16.0
x=4H y=6H	14.6	15.3	15.3	15.9	16.8	14.7	15.4	15.4	16.1	16.8
x=4H y=8H	14.9	15.5	15.6	16.2	17.1	15.1	15.7	15.8	16.3	17.1
x=4H y=12H	15.2	15.7	15.9	16.5	17.5	15.4	16.0	16.2	16.7	17.5
x=8H y=4H	14.2	14.8	14.9	15.5	16.3	14.3	14.9	15.0	15.5	16.3
x=8H y=6H	15.1	15.6	15.9	16.3	17.2	15.2	15.7	15.9	16.4	17.2
x=8H y=8H	15.6	16.0	16.3	16.7	17.7	15.7	16.1	16.4	16.9	17.7
x=8H y=12H	16.0	16.3	16.7	17.1	18.2	16.2	16.6	16.9	17.3	18.2
x=12H y=4H	14.2	14.8	15.0	15.5	16.3	14.3	14.9	15.0	15.6	16.3
x=12H y=6H	15.2	15.7	16.0	16.4	17.3	15.3	15.8	16.1	16.5	17.3
x=12H y=8H	15.7	16.1	16.5	16.8	17.8	15.9	16.2	16.6	17.0	17.8

Luminaire		Measurem.		Lamp	
Code	5440	Code	5440	Code	66748 ECO
Name	4 ceiling lamp hal.	Name	4 ceiling lamp hal.	Number	4
Line	VIBIA-Puck	Date	05-06-2012	Position	Universal
Efficiency	46.01%	Coordinate system	C-G	Total Flux	2960.00 lm

Isolux (Floor)

Luminaire position X=0.00m Y=0.00m Z=3.00m



Luminaire				Measurem.				Lamp			
Code	5440			Code	5440			Code	66748 ECO		
Name	4 ceiling lamp hal.			Name	4 ceiling lamp hal.			Number	4		
Line	VIBIA-Puck			Date	05-06-2012			Position	Universal		
Efficiency	46.01%	Coordinate system				C-G	Total Flux				2960.00 lm

Utilizations CIE

Mounting	Direct				114-Norm type Normalised								Suspension Ratio 1/3								Standard CIE Settings							
	Ceiling																											
K	8873	8773	8871	8771	7773	7771	7753	7553	7751	7551	7731	7331	7711	7111	5551	5531	5331	5511	5111	3331	3311	1111	0000					
0.60	157	141	138	125	134	119	103	87	93	79	76	57	63	43	74	61	54	51	41	51	43	37	31					
0.80	177	163	149	137	155	131	120	105	104	92	85	68	71	52	86	71	64	59	49	61	51	45	37					
1.00	191	178	153	143	169	137	134	120	111	100	92	76	77	59	94	78	72	66	56	68	58	52	42					
1.25	203	191	156	147	182	142	147	134	117	107	98	83	83	66	101	85	79	73	63	75	65	58	47					
1.50	211	201	156	149	191	144	158	145	121	112	102	89	87	72	105	90	85	78	69	81	70	64	50					
2.00	222	213	154	149	204	144	174	163	125	118	108	97	94	81	111	98	93	86	78	89	79	73	56					
2.50	229	222	152	148	212	144	185	175	127	121	112	103	100	88	115	103	98	92	85	95	85	79	60					
3.00	234	227	150	147	217	143	193	184	128	123	115	107	103	93	117	106	102	96	90	99	90	84	63					
4.00	240	235	148	145	225	142	204	197	129	126	119	112	109	100	121	111	108	102	97	104	97	91	67					
5.00	244	240	146	144	230	141	212	206	130	127	121	115	112	105	122	114	112	106	102	108	101	96	70					
10.00	252	250	140	140	240	137	229	226	131	130	126	123	121	116	126	121	119	116	113	116	112	108	76					
20.00	256	254	137	136	244	134	239	237	131	131	128	127	125	123	127	124	124	122	120	121	118	115	80					

Wall

K	8873	8773	8871	8771	7773	7771	7753	7553	7751	7551	7731	7331	7711	7111	5551	5531	5331	5511	5111	3331	3311	1111	0000										
0.60	205	196	181	174	192	170	151	144	138	132	115	108	99	92	129	109	106	95	91	105	92	89	81										
0.80	234	225	201	195	219	190	178	170	158	152	136	128	119	111	148	128	125	113	109	123	109	106	96										
1.00	255	246	214	208	238	202	198	190	173	167	151	143	134	126	161	142	139	127	123	136	122	119	107										
1.25	274	265	225	219	256	213	218	210	186	180	165	157	149	140	173	156	152	141	137	148	135	131	118										
1.50	288	280	232	228	269	221	234	225	196	191	176	168	160	152	182	166	163	152	147	158	145	140	126										
2.00	305	298	239	236	285	228	254	246	207	203	190	183	175	167	193	179	176	166	161	169	158	152	136										
2.50	317	311	244	240	296	233	269	261	215	211	200	193	186	178	200	187	185	176	172	177	167	160	143										
3.00	325	319	246	244	304	236	279	272	220	216	206	200	194	187	205	194	191	183	179	183	174	166	148										
4.00	338	334	252	250	317	243	296	290	230	227	218	213	207	201	215	205	203	196	192	193	186	176	157										
5.00	348	344	258	256	327	248	309	304	237	235	227	223	218	212	222	213	212	206	202	201	195	185	164										
10.00	374	372	273	272	353	264	342	339	258	256	252	249	246	242	243	237	236	232	230	224	220	208	185										
20.00	392	391	285	285	371	277	365	363	273	272	269	268	266	264	258	255	254	252	250	241	238	226	202										

Working Pl.

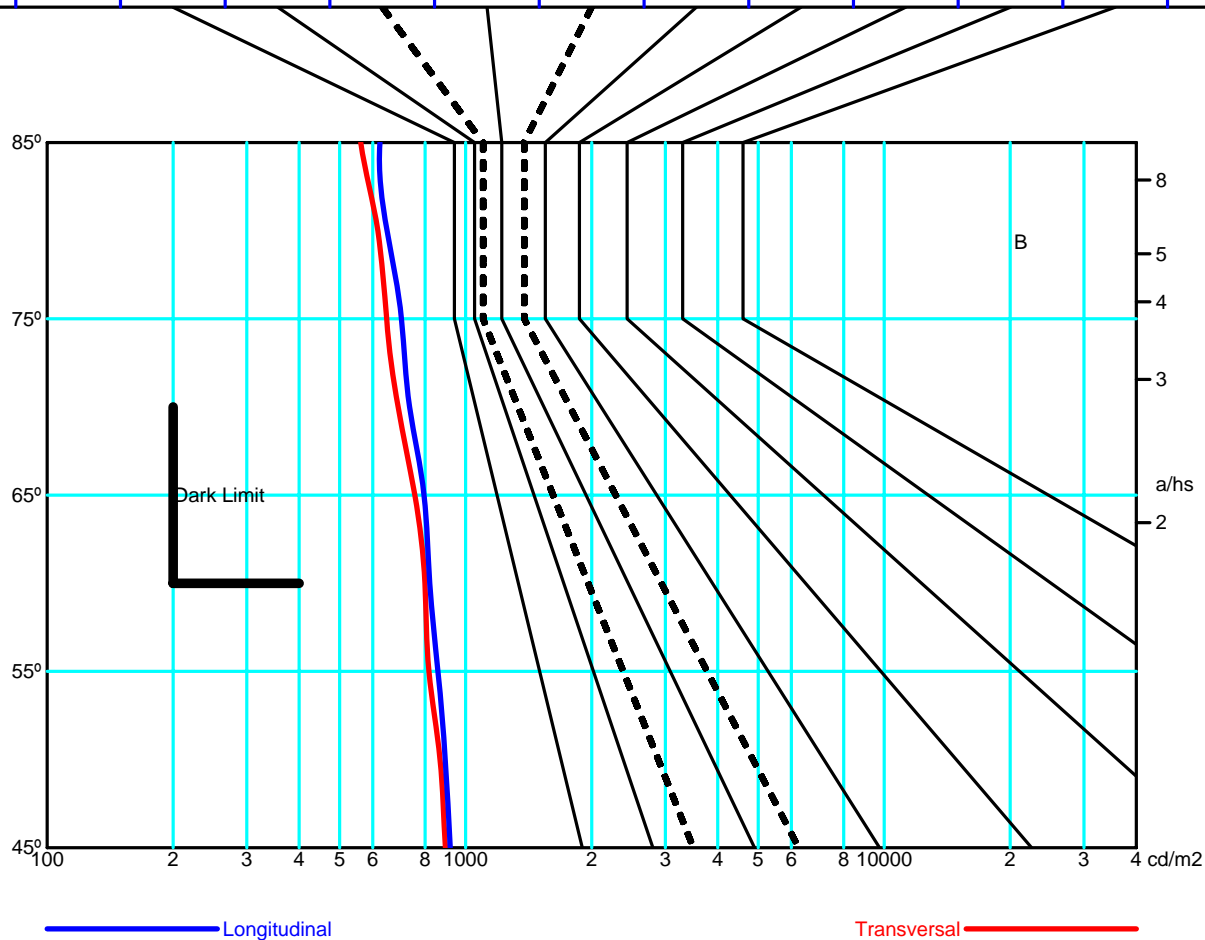
K	8873	8773	8871	8771	7773	7771	7753	7553	7751	7551	7731	7331	7711	7111	5551	5531	5331	5511	5111	3331	3311	1111	0000										
0.60	245	236	228	221	230	216	180	173	174	167	145	138	124	118	163	138	135	119	116	133	116	113	106										
0.80	292	282	269	261	274	255	223	214	213	206	183	174	161	152	199	173	170	153	149	166	148	144	136										
1.00	330	319	300	293	308	285	259	249	245	237	215	205	192	182	228	203	199	183	178	194	176	171	162										
1.25	365	355	329	322	342	313	294	284	276	268	247	236	224	212	257	233	228	213	207	222	204	197	188										
1.50	392	382	350	344	367	333	322	311	299	291	271	261	249	237	278	256	251	236	230	243	226	218	208										
2.00	431	423	380	375	404	363	364	354	334	327	309	299	289	277	311	291	287	274	267	276	261	251	240										
2.50	457	449	399	394	429	382	393	383	357	350	335	325	316	304	333	315	311	299	293	298	285	272	262										
3.00	476	469	412	408	446	395	414	405	373	367	353	344	336	325	348	332	329	318	312	314	302	288	278										
4.00	499	493	428	425	469	412	442	434	393	389	377	369	362	352	368	355	351	342	337	335	325	309	298										
5.00	514	509	438	436	483	422	460	453	406	403	392	386	379	370	380	369	366	358	353	348	339	322	310										
10.00	546	543	459	457	514	443	500	496	434	432	426	422	418	412	407	400	399	394	391	377	372	351	339										
20.00	564	562	470	469	531	455	524	521	450	449	445	443	441	438	423	419	418	415	413	394	391	368	356										

LM53 SHR C0-C180: 1.250 SHR C90-C270: 1.262 SHR Square: 1.383

Luminaire		Measur.		Lamp	
Code	5440	Code	5440	Code	66748 ECO
Name	4 ceiling lamp hal.	Name	4 ceiling lamp hal.	Number	4
Line	VIBIA-Puck	Date	05-06-2012	Position	Universal
Efficiency	46.01%	Coordinate system	C-G	Total Flux	2960.00 lm

	45°	50°	55°	60°	65°	70°	75°	80°	85°	
0°	894.6	868.5	816.9	799.2	756.2	688.7	647.7	616.8	561.6	---
90°	918.4	894.4	858.4	821.0	795.4	734.6	702.4	648.8	623.9	---

Flush mounted or transversal view												
		Illumination(lx)										
A	A	2000	1000	750	500		<300					1.15
B	1		2000	1500	1000	750	500	<300				1.5
C					2000		1000	500	<300			1.85
D	2						2000	1000	500	<300		2.2
E	3							2000	1000	500	<300	2.55



Luminaire		Measur.		Lamp	
Code	5440	Code	5440	Code	66748 ECO
Name	4 ceiling lamp hal.	Name	4 ceiling lamp hal.	Number	4
Line	VIBIA-Puck	Date	05-06-2012	Position	Universal
Efficiency	46.01%	Coordinate system	C-G	Total Flux	2960.00 lm

Luminance												
G/C	0	30	60	90	120	150	180	210	240	270	300	330
0°	1106.72	1106.72	1106.72	1106.72	1106.72	1106.72	1106.72	1106.72	1106.72	1106.72	1106.72	1106.72
5°	1094.63	1091.91	1079.07	1090.03	1079.07	1091.91	1094.63	1091.91	1079.07	1090.03	1079.07	1091.91
10°	1069.86	1058.18	1050.96	1077.14	1050.96	1058.18	1069.86	1058.18	1050.96	1077.14	1050.96	1058.18
15°	1036.66	1037.39	1031.66	1059.32	1031.66	1037.39	1036.66	1037.39	1031.66	1059.32	1031.66	1037.39
20°	1044.69	1031.06	1018.41	1041.62	1018.41	1031.06	1044.69	1031.06	1018.41	1041.62	1018.41	1031.06
25°	1015.91	991.65	992.72	1023.17	992.72	991.65	1015.91	991.65	992.72	1023.17	992.72	991.65
30°	970.35	978.19	953.62	995.81	953.62	978.19	970.35	978.19	953.62	995.81	953.62	978.19
35°	966.90	934.93	927.57	979.39	927.57	934.93	966.90	934.93	927.57	979.39	927.57	934.93
40°	932.30	919.91	904.69	949.22	904.69	919.91	932.30	919.91	904.69	949.22	904.69	919.91
45°	894.63	863.51	860.22	918.41	860.22	863.51	894.63	863.51	860.22	918.41	860.22	863.51
50°	868.54	828.11	829.70	894.44	829.70	828.11	868.54	828.11	829.70	894.44	829.70	828.11
55°	816.91	802.24	778.01	858.35	778.01	802.24	816.91	802.24	778.01	858.35	778.01	802.24
60°	799.16	762.69	744.51	820.96	744.51	762.69	799.16	762.69	744.51	820.96	744.51	762.69
65°	756.22	716.87	702.15	795.37	702.15	716.87	756.22	716.87	702.15	795.37	702.15	716.87
70°	688.71	668.44	651.79	734.63	651.79	668.44	688.71	668.44	651.79	734.63	651.79	668.44
75°	647.66	613.07	599.85	702.44	599.85	613.07	647.66	613.07	599.85	702.44	599.85	613.07
80°	616.77	574.73	544.00	648.78	544.00	574.73	616.77	574.73	544.00	648.78	544.00	574.73
85°	561.59	516.29	490.46	623.87	490.46	516.29	561.59	516.29	490.46	623.87	490.46	516.29
90°	593.28	516.34	528.17	741.75	528.17	516.34	593.28	516.34	528.17	741.75	528.17	516.34

