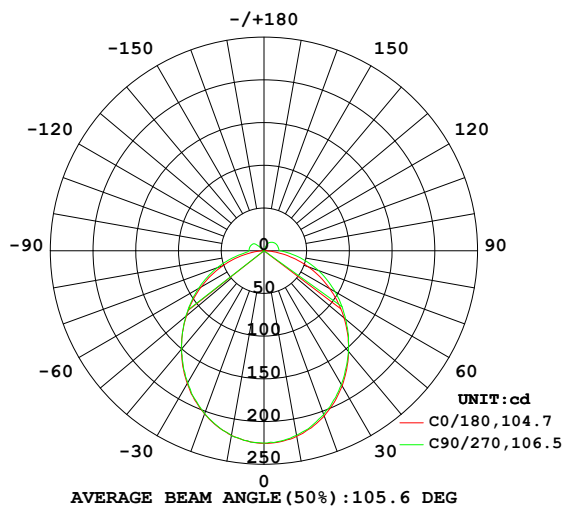


LUMINAIRE PHOTOMETRIC TEST REPORT

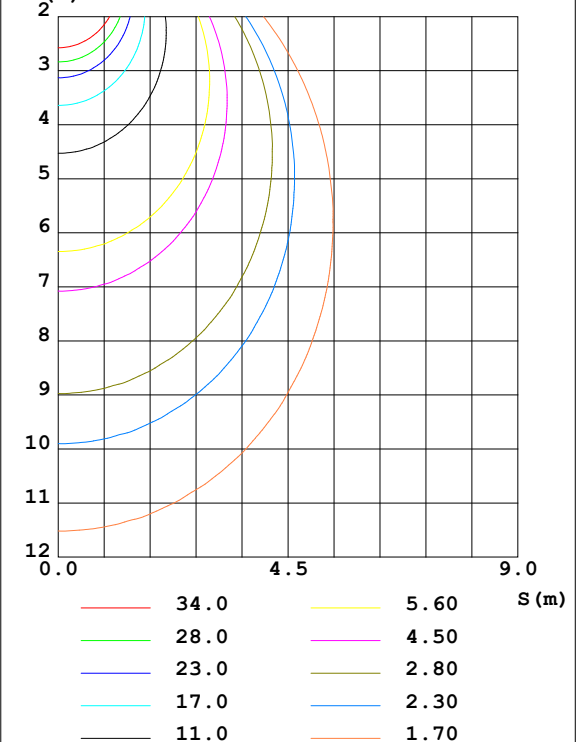
Test:U:24.001V I:0.3363A P:8.0715W PF:1.0000 Freq:0Hz Lamp Flux:652.571x1 lm		
NAME: RIBDC-23-30K-AM	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAYHIL	SUR.: 0.01*0.6	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 80.85 lm/W			
MODEL		I _{max} (cd)	225.5	S/MH (C0/180)	1.19
NOMINAL POWER (W)		LOR (%)	100.0	S/MH (C90/270)	1.19
RATED VOLTAGE (V)		TOTAL FLUX (lm)	652.60	η UP,DN (C0-180)	3.6,48.0
NOMINAL FLUX (lm)	652.571	CIE CLASS	DIRECT	η UP,DN (C180-360)	2.8,45.7
LAMPS INSIDE	1	η up (%)	6.4	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)		η down (%)	93.6	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JZ
Test Date:2023-08-08

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.444
Humidity:65.0%
Test Distance:8.700m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

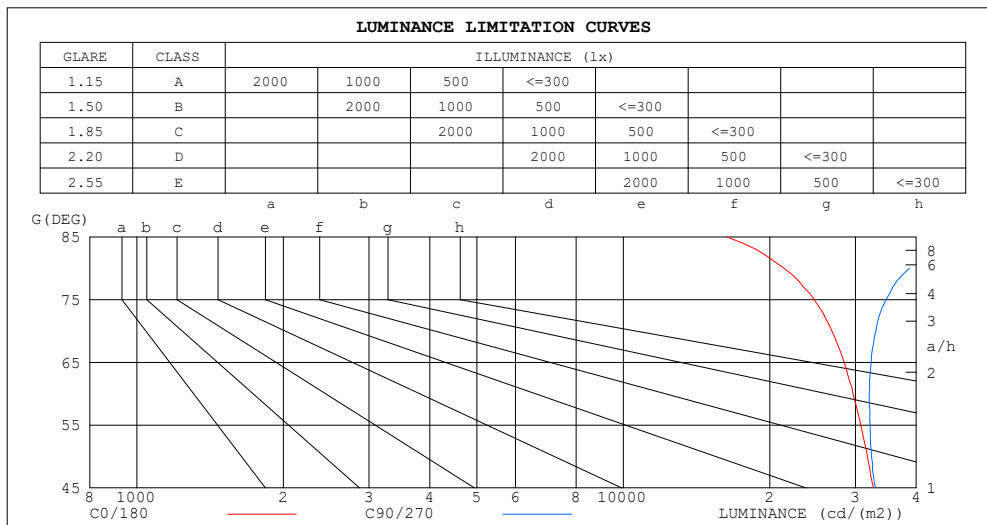
γ	C0	C90	C180	C270					γ	Φ zone	Φ total	%lum, lamp
10	220.6	219.3	219.5	219.7					0- 10	21.23	21.23	3.25,3.25
20	205.9	204.2	203.3	203.0					10- 20	60.01	81.24	12.4,12.4
30	182.8	181.0	179.6	178.4					20- 30	88.89	170.1	26.1,26.1
40	154.0	154.0	150.3	149.9					30- 40	104.2	274.4	42,42
50	122.5	124.8	118.5	119.6					40- 50	105.6	380.0	58.2,58.2
60	88.99	96.05	85.10	88.82					50- 60	94.46	474.4	72.7,72.7
70	55.06	67.78	51.25	58.24					60- 70	73.15	547.6	83.9,83.9
80	22.31	40.31	18.78	30.16					70- 80	45.03	592.6	90.8,90.8
90	0.6620	19.41	0.4290	17.95					80- 90	18.33	610.9	93.6,93.6
100	0.2352	17.34	0.2956	17.48					90-100	9.787	620.7	95.1,95.1
110	0.2953	16.95	0.3945	16.80					100-110	9.234	630.0	96.5,96.5
120	0.4308	16.18	0.5175	15.58					110-120	8.365	638.3	97.8,97.8
130	0.5662	14.95	0.6531	9.817					120-130	6.886	645.2	98.9,98.9
140	0.7140	13.09	0.7810	0.7274					130-140	3.538	648.8	99.4,99.4
150	0.8400	10.60	0.9189	0.7757					140-150	2.246	651.0	99.8,99.8
160	0.9187	1.156	1.010	0.9113					150-160	1.221	652.2	99.9,99.9
170	0.9728	1.025	1.039	0.9754					160-170	0.2789	652.5	100,100
180	1.022	1.035	1.047	1.010					170-180	0.0966	652.6	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JZ
Test Date:2023-08-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.444
Humidity:65.0%
Test Distance:8.700m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:24.001V I:0.3363A P:8.0715W PF:1.0000 Freq:0Hz Lamp Flux:652.57lx1 lm		
NAME: RIBDC-23-30K-AM	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAYHIL	SUR.: 0.01*0.6	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	16333	53988
80	21416	38693
75	24667	34686
70	26833	33027
65	28459	32349
60	29665	32018
55	30753	32145
50	31753	32371
45	32681	32992

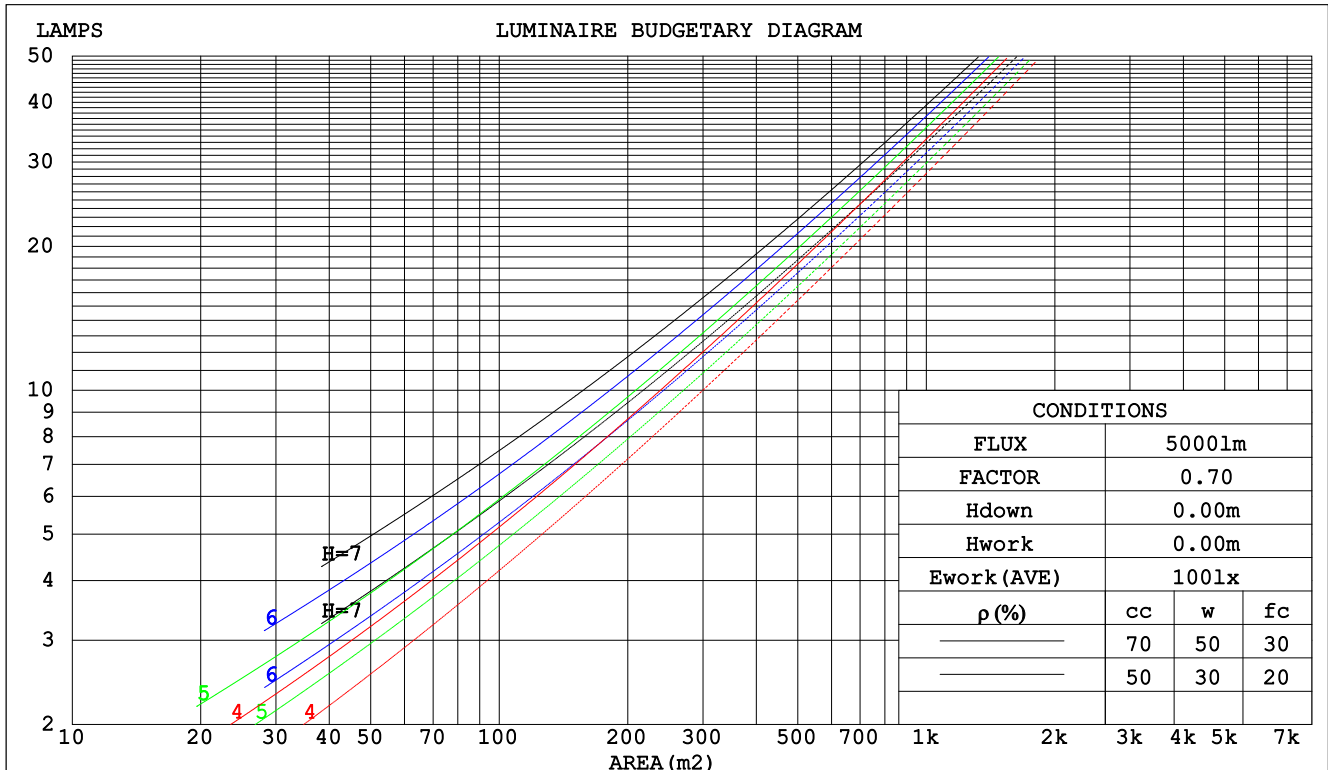
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JZ
Test Date:2023-08-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.444
Humidity:65.0%
Test Distance:8.700m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:24.001V I:0.3363A P:8.0715W PF:1.0000 Freq:0Hz Lamp Flux:652.57lx1 lm		
NAME: RIBDC-23-30K-AM	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAYHIL	SUR.: 0.01*0.6	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
0.0	1.18	1.18	1.18	1.14	1.14	1.14	1.08	1.08	1.08	1.02	1.02	1.02	.96	.96	.96	.94
1.0	1.02	.98	.94	.99	.95	.91	.94	.90	.87	.89	.86	.84	.84	.82	.80	.77
2.0	.89	.82	.76	.86	.80	.75	.82	.77	.72	.78	.73	.69	.74	.70	.67	.64
3.0	.78	.70	.63	.76	.68	.62	.72	.66	.60	.68	.63	.58	.65	.61	.57	.54
4.0	.69	.60	.54	.67	.59	.53	.64	.57	.51	.61	.55	.50	.58	.53	.49	.46
5.0	.62	.53	.46	.60	.52	.46	.57	.50	.45	.55	.48	.43	.52	.47	.42	.40
6.0	.56	.47	.40	.54	.46	.40	.52	.45	.39	.50	.43	.38	.47	.42	.37	.35
7.0	.50	.42	.36	.49	.41	.35	.47	.40	.35	.45	.39	.34	.43	.38	.33	.31
8.0	.46	.38	.32	.45	.37	.32	.43	.36	.31	.42	.35	.30	.40	.34	.30	.28
9.0	.42	.34	.29	.41	.34	.28	.40	.33	.28	.38	.32	.27	.37	.31	.27	.25
10.0	.39	.31	.26	.38	.31	.26	.37	.30	.25	.36	.29	.25	.34	.29	.25	.23



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JZ
Test Date:2023-08-08

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.444
Humidity:65.0%
Test Distance:8.700m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:24.001V I:0.3363A P:8.0715W PF:1.0000 Freq:0Hz		
Lamp Flux:652.571x1 lm		
NAME: RIBDC-23-30K-AM	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAYHIL	SUR.: 0.01*0.6	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0	
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
pfc	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.317	.180	.057	.308	.176	.056	.291	.167	.053	.275	.159	.051	.261	.151	.049		
2.0	.293	.161	.049	.285	.157	.048	.270	.150	.047	.256	.144	.045	.243	.137	.043		
3.0	.269	.143	.043	.262	.140	.042	.248	.135	.041	.236	.129	.040	.224	.124	.038		
4.0	.247	.129	.038	.241	.126	.037	.229	.121	.036	.218	.117	.035	.207	.113	.034		
5.0	.228	.116	.034	.222	.114	.033	.212	.110	.032	.201	.106	.032	.192	.103	.031		
6.0	.211	.106	.030	.206	.104	.030	.196	.101	.029	.187	.097	.029	.179	.094	.028		
7.0	.197	.097	.028	.192	.096	.027	.183	.093	.027	.175	.090	.026	.167	.087	.025		
8.0	.183	.090	.025	.179	.088	.025	.171	.086	.024	.164	.083	.024	.157	.080	.023		
9.0	.172	.083	.023	.168	.082	.023	.161	.079	.023	.154	.077	.022	.147	.075	.022		
10.0	.162	.077	.022	.158	.076	.021	.151	.074	.021	.145	.072	.020	.139	.070	.020		

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.239	.239	.239	.204	.204	.204	.139	.139	.139	.080	.080	.080	.026	.026	.026	
1.0	.230	.205	.183	.197	.176	.157	.135	.121	.109	.077	.070	.063	.025	.023	.020	
2.0	.222	.181	.147	.190	.156	.127	.130	.108	.089	.075	.063	.052	.024	.020	.017	
3.0	.214	.164	.124	.183	.141	.108	.126	.098	.075	.073	.057	.044	.023	.019	.015	
4.0	.206	.151	.108	.177	.130	.094	.122	.091	.066	.070	.053	.039	.023	.017	.013	
5.0	.199	.141	.098	.171	.122	.085	.118	.085	.060	.068	.050	.036	.022	.016	.012	
6.0	.192	.132	.090	.165	.115	.078	.114	.080	.055	.066	.047	.033	.021	.015	.011	
7.0	.185	.125	.084	.159	.109	.073	.110	.076	.052	.064	.045	.031	.021	.015	.010	
8.0	.178	.120	.079	.154	.104	.069	.106	.073	.049	.062	.043	.029	.020	.014	.010	
9.0	.172	.115	.076	.149	.100	.066	.103	.070	.047	.060	.041	.028	.019	.014	.009	
10.0	.167	.111	.073	.144	.096	.064	.100	.068	.045	.058	.040	.027	.019	.013	.009	

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JZ
Test Date:2023-08-08

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.444
Humidity:65.0%
Test Distance:8.700m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:24.001V I:0.3363A P:8.0715W PF:1.0000 Freq:0Hz Lamp Flux:652.57lx1 lm										
NAME: RIBDC-23-30K-AM					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.: RAYHIL					SUR.: 0.01*0.6			Shielding Angle:		
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
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise				
x = 2H y = 2H	25.8	27.3	26.2	27.6	27.9	26.1	27.5	26.4	27.8	28.1
3H	27.3	28.7	27.7	29.0	29.4	27.9	29.2	28.3	29.5	29.9
4H	27.9	29.2	28.3	29.5	29.9	28.7	30.0	29.1	30.3	30.7
6H	28.3	29.5	28.8	29.9	30.3	29.5	30.7	30.0	31.1	31.5
8H	28.5	29.6	28.9	30.0	30.4	29.9	31.1	30.4	31.5	31.9
12H	28.5	29.6	29.0	30.0	30.4	30.3	31.4	30.8	31.8	32.3
4H 2H	26.5	27.7	26.9	28.1	28.5	26.7	27.9	27.1	28.3	28.7
3H	28.2	29.3	28.6	29.7	30.1	28.6	29.7	29.1	30.1	30.6
4H	28.9	29.9	29.4	30.4	30.8	29.6	30.6	30.1	31.1	31.5
6H	29.5	30.4	30.0	30.8	31.3	30.6	31.5	31.1	32.0	32.5
8H	29.6	30.5	30.2	30.9	31.5	31.1	31.9	31.6	32.4	32.9
12H	29.7	30.5	30.3	31.0	31.5	31.6	32.3	32.1	32.8	33.4
8H 4H	29.3	30.1	29.8	30.6	31.1	29.9	30.7	30.4	31.2	31.7
6H	30.0	30.7	30.6	31.2	31.8	31.1	31.8	31.6	32.3	32.8
8H	30.3	30.9	30.9	31.4	32.0	31.7	32.3	32.2	32.8	33.4
12H	30.5	31.0	31.1	31.6	32.2	32.4	32.9	32.9	33.4	34.0
12H 4H	29.3	30.1	29.9	30.6	31.1	29.9	30.7	30.5	31.2	31.7
6H	30.1	30.8	30.7	31.3	31.9	31.1	31.8	31.7	32.3	32.9
8H	30.5	31.0	31.1	31.6	32.2	31.8	32.3	32.4	32.9	33.5
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 0.1 / - 0.2					+ 0.1 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.1 / - 0.3					+ 0.1 / - 0.3				

CIE Pub.117, 652.6 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -1.5)
Area: 0.006 m2

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JZ
Test Date:2023-08-08

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.444
Humidity:65.0%
Test Distance:8.700m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:24.001V I:0.3363A P:8.0715W PF:1.0000 Freq:0Hz Lamp Flux:652.571x1 lm		
NAME: RIBDC-23-30K-AM	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAYHIL	SUR.: 0.01*0.6	Shielding Angle:

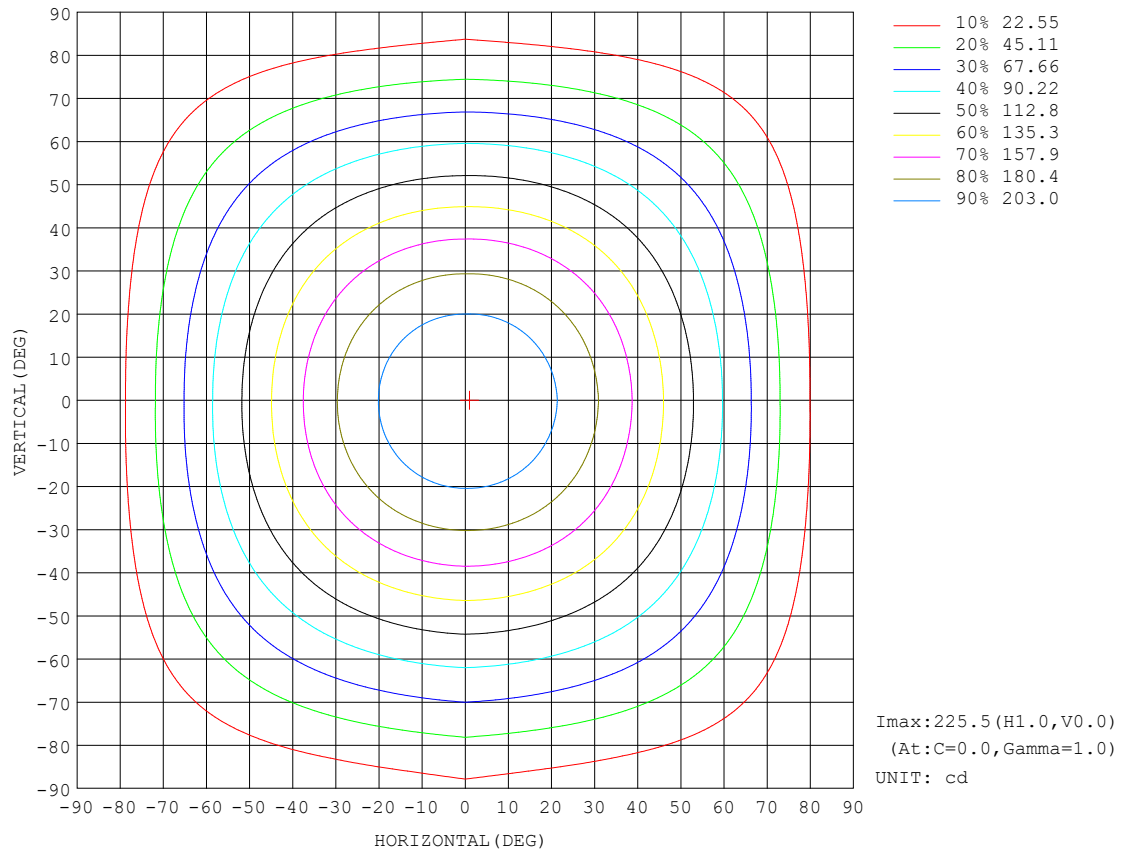
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) k(RI) x RCR = 5									
k = 0.60	56	44	37	55	44	37	54	43	37	31
0.80	66	54	47	64	53	46	62	52	46	39
1.00	74	62	55	72	62	55	70	63	54	46
1.25	81	70	63	79	69	62	76	67	61	53
1.50	86	75	68	84	74	68	80	72	66	58
2.00	92	84	77	90	82	76	86	79	74	65
2.50	96	88	82	94	87	81	89	83	78	69
3.00	100	93	87	97	91	85	92	87	82	72
4.00	104	98	93	101	96	91	96	91	88	77
5.00	106	101	97	103	99	95	98	94	91	80
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004				Suspended				SHRNM = 1.25		

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JZ
Test Date:2023-08-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.444
Humidity:65.0%
Test Distance:8.700m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:24.001V I:0.3363A P:8.0715W PF:1.0000 Freq:0Hz Lamp Flux:652.57lx1 lm		
NAME: RIBDC-23-30K-AM	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAYHIL	SUR.: 0.01*0.6	Shielding Angle:

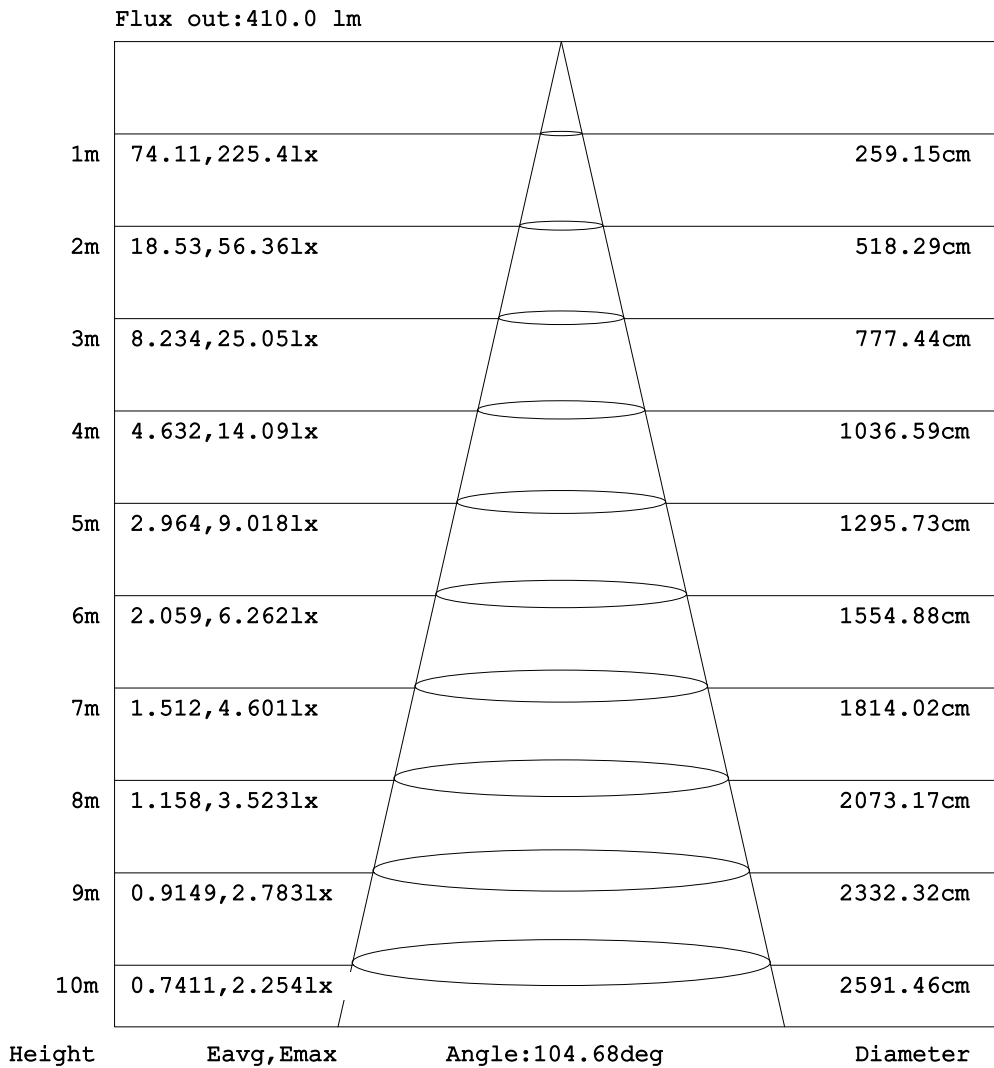


C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JZ
Test Date:2023-08-08

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.444
Humidity:65.0%
Test Distance:8.700m [K=1.0000]
Remarks:

AAI Figure

Test:U:24.001V I:0.3363A P:8.0715W PF:1.0000 Freq:0Hz Lamp Flux:652.571x1 lm		
NAME: RIBDC-23-30K-AM	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAYHIL	SUR.: 0.01*0.6	Shielding Angle:



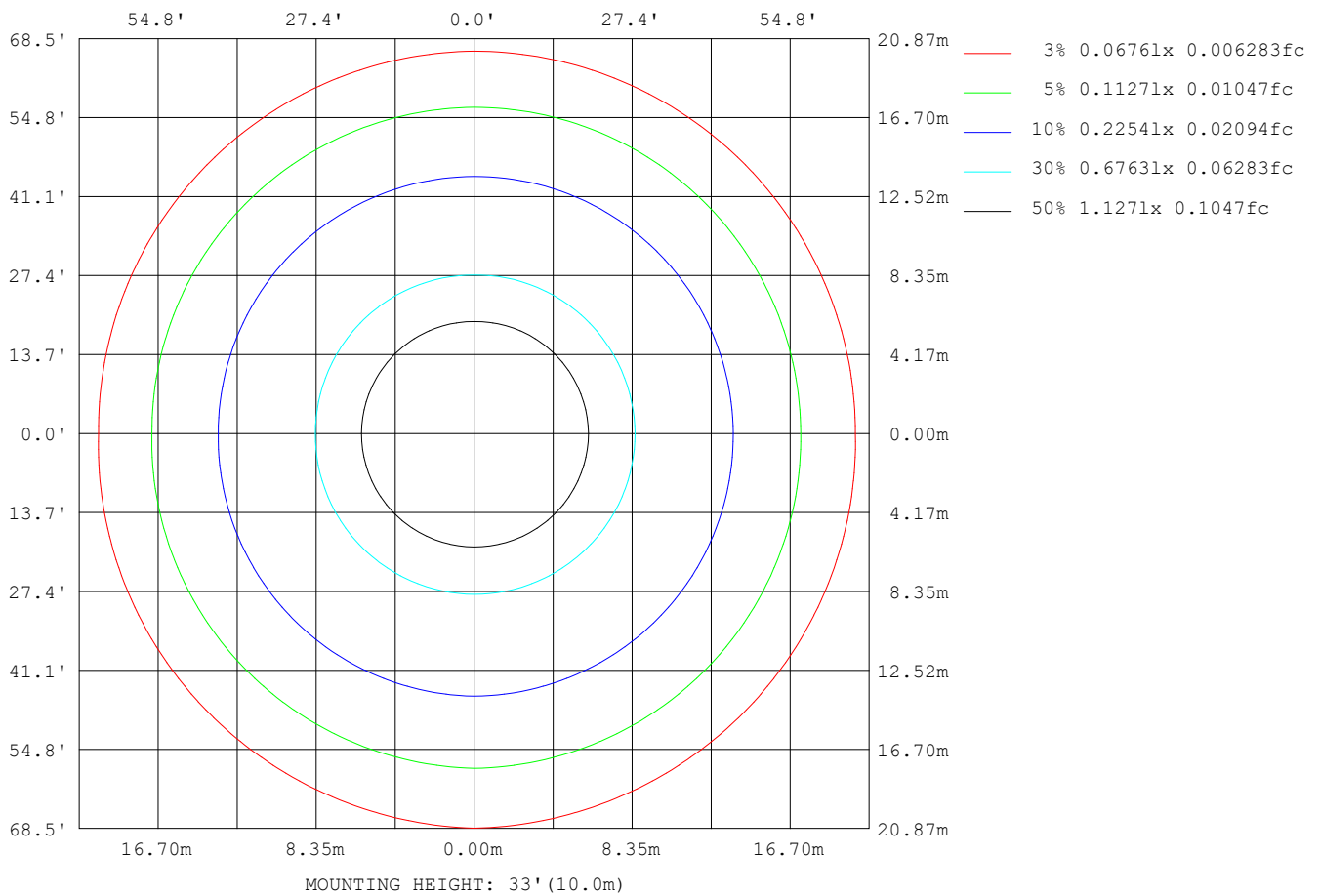
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JZ
Test Date:2023-08-08

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.444
Humidity:65.0%
Test Distance:8.700m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:24.001V I:0.3363A P:8.0715W PF:1.0000 Freq:0Hz Lamp Flux:652.57lx1 lm		
NAME: RIBDC-23-30K-AM	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAYHIL	SUR.: 0.01*0.6	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JZ
Test Date:2023-08-08

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.444
Humidity:65.0%
Test Distance:8.700m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:24.001V I:0.3363A P:8.0715W PF:1.0000 Freq:0Hz Lamp Flux:652.571x1 lm		
NAME: RIBDC-23-30K-AM	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAYHIL	SUR.: 0.01*0.6	Shielding Angle:

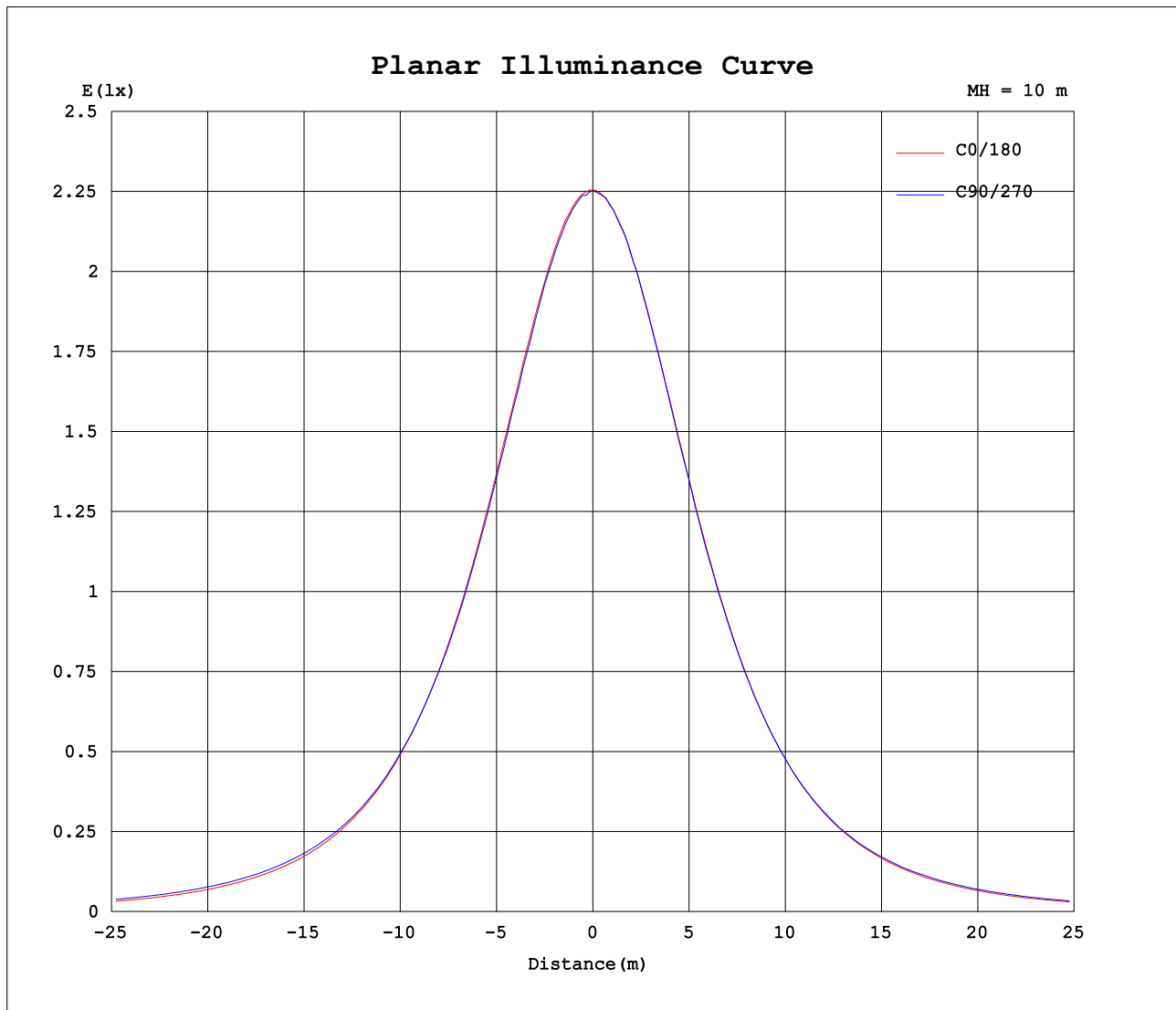
AvgL	cd/m2
L_0~180 (65) av	27687
L_0~180 (75) av	23450
L_0~180 (85) av	13902
L_90~270 (65) av	30623
L_90~270 (75) av	31318
L_90~270 (85) av	46626
L_45 (65) av	29473
L_45 (75) av	28292
L_45 (85) av	34203

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JZ
Test Date:2023-08-08

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.444
Humidity:65.0%
Test Distance:8.700m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: JZ
Test Date: 2023-08-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.00.444
Humidity: 65.0%
Test Distance: 8.700m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:24.001V I:0.3363A P:8.0715W PF:1.0000 Freq:0Hz Lamp Flux:652.571x1 lm		
NAME: RIBDC-23-30K-AM	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAYHIL	SUR.: 0.01*0.6	Shielding Angle:

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	90	180	270														
0	225	225	225	225														
5	224	224	224	223														
10	221	219	220	220														
15	214	213	213	212														
20	206	204	203	203														
25	195	193	193	192														
30	183	181	180	178														
35	169	167	166	165														
40	154	154	150	150														
45	139	140	135	135														
50	122	125	119	120														
55	106	111	102	104														
60	89.0	96.1	85.1	88.8														
65	72.2	82.0	68.2	73.3														
70	55.1	67.8	51.2	58.2														
75	38.3	53.9	34.5	43.4														
80	22.3	40.3	18.8	30.2														
85	8.54	28.2	6.00	20.5														
90	0.66	19.4	0.43	17.9														
95	0.23	17.6	0.27	17.6														
100	0.24	17.3	0.30	17.5														
105	0.24	17.1	0.33	17.2														
110	0.30	16.9	0.39	16.8														
115	0.34	16.6	0.47	16.3														
120	0.43	16.2	0.52	15.6														
125	0.50	15.7	0.59	14.5														
130	0.57	15.0	0.65	9.82														
135	0.62	14.1	0.74	0.73														
140	0.71	13.1	0.78	0.73														
145	0.78	11.9	0.85	0.75														
150	0.84	10.6	0.92	0.78														
155	0.87	8.53	0.97	0.83														
160	0.92	1.16	1.01	0.91														
165	0.94	1.00	1.03	0.96														
170	0.97	1.03	1.04	0.98														
175	0.99	1.03	1.04	0.99														
180	1.02	1.03	1.05	1.01														

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JZ
Test Date:2023-08-08

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.444
Humidity:65.0%
Test Distance:8.700m [K=1.0000]
Remarks: