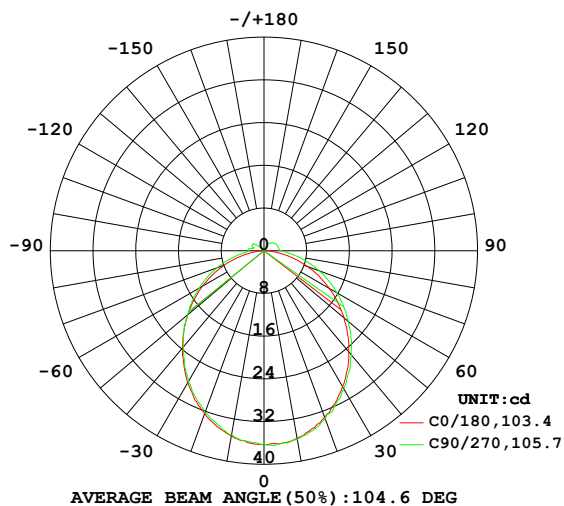


## LUMINAIRE PHOTOMETRIC TEST REPORT

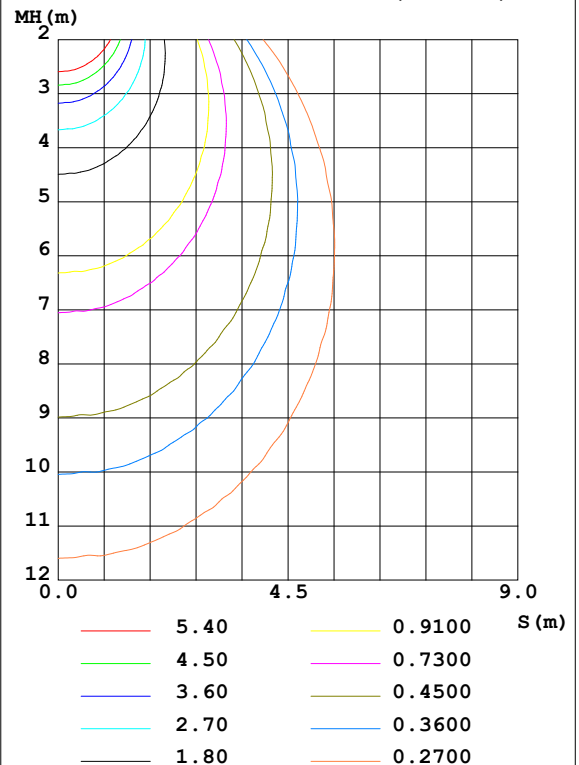
Test:U:24.002V I:0.0556A P:1.3345W PF:1.0000 Freq:0Hz Lamp Flux:104.285x1 lm		
NAME: RIBDC-4-30K-AM	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAYHIL	SUR.: 0.01*0.1	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 78.14 lm/W			
MODEL		I <sub>max</sub> (cd)	36.54	S/MH (C0/180)	1.18
NOMINAL POWER (W)		LOR (%)	100.0	S/MH (C90/270)	1.17
RATED VOLTAGE (V)		TOTAL FLUX (lm)	104.28	η UP, DN (C0-180)	3.5, 48.7
NOMINAL FLUX (lm)	104.285	CIE CLASS	DIRECT	η UP, DN (C180-360)	2.6, 45.2
LAMPS INSIDE	1	η up (%)	6.1	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)		η down (%)	93.9	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:

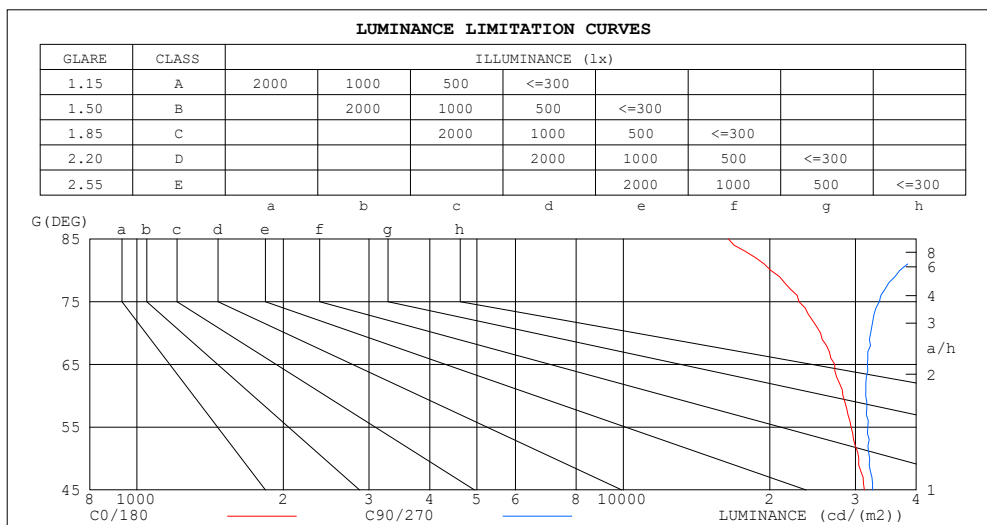
$\gamma$	C0	C90	C180	C270					$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	35.67	35.84	35.20	34.92					0- 10	3.426	3.426	3.29,3.29
20	33.22	33.50	32.43	32.32					10- 20	9.671	13.10	12.6,12.6
30	29.42	29.94	28.54	28.27					20- 30	14.30	27.39	26.3,26.3
40	24.70	25.50	23.75	23.48					30- 40	16.74	44.13	42.3,42.3
50	19.60	20.64	18.64	18.66					40- 50	16.90	61.03	58.5,58.5
60	14.14	15.75	13.34	14.08					50- 60	15.08	76.11	73,73
70	8.700	11.03	7.926	9.376					60- 70	11.67	87.78	84.2,84.2
80	3.491	6.425	2.890	5.114					70- 80	7.176	94.96	91.1,91.1
90	0.2478	3.127	0.1224	2.968					80- 90	2.998	97.95	93.9,93.9
100	0.0369	2.791	0.0493	2.612					90-100	1.609	99.56	95.5,95.5
110	0.0369	2.734	0.0739	2.339					100-110	1.329	100.9	96.8,96.7
120	0.0369	2.574	0.0862	2.448					110-120	1.297	102.2	98,98
130	0.0369	2.315	0.0987	1.259					120-130	1.060	103.2	99,99
140	0.0369	1.946	0.1279	0.1356					130-140	0.5104	103.8	99.5,99.5
150	0.0738	1.490	0.1452	0.1355					140-150	0.3220	104.1	99.8,99.8
160	0.0985	0.1477	0.1521	0.1355					150-160	0.1422	104.2	99.9,99.9
170	0.1373	0.1481	0.1589	0.1429					160-170	0.0392	104.3	100,100
180	0.1724	0.1724	0.1601	0.1478					170-180	0.0146	104.3	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

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  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:24.002V I:0.0556A P:1.3345W PF:1.0000 Freq:0Hz Lamp Flux:104.285x1 lm		
NAME: RIBDC-4-30K-AM	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAYHIL	SUR.: 0.01*0.1	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	16439	51536
80	20103	37003
75	22963	33582
70	25438	32253
65	27202	31757
60	28289	31496
55	29407	31795
50	30492	32105
45	31309	32532

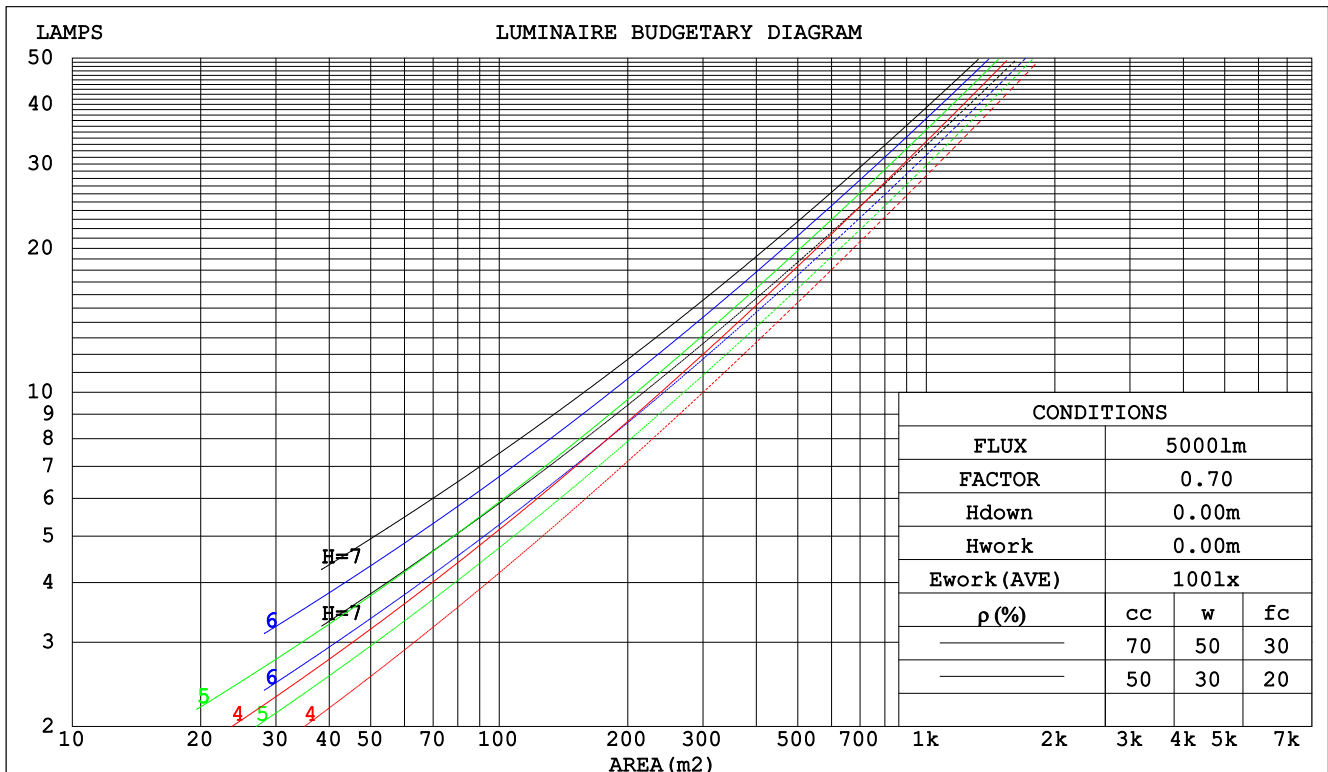
C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JZ  
Test Date:2023-08-08

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  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:24.002V I:0.0556A P:1.3345W PF:1.0000 Freq:0Hz Lamp Flux:104.285x1 lm		
NAME: RIBDC-4-30K-AM	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAYHIL	SUR.: 0.01*0.1	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															



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:24.002V I:0.0556A P:1.3345W PF:1.0000 Freq:0Hz		
Lamp Flux:104.285x1 lm		
NAME: RIBDC-4-30K-AM	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAYHIL	SUR.: 0.01*0.1	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	.276	.159	.051	.262	.152	.049		
2.0	.293	.161	.049	.285	.157	.048	.270	.150	.047	.256	.144	.045	.244	.138	.043		
3.0	.269	.143	.043	.262	.140	.042	.249	.135	.041	.236	.129	.040	.225	.124	.039		
4.0	.247	.128	.038	.241	.126	.037	.229	.121	.036	.218	.117	.035	.208	.113	.034		
5.0	.228	.116	.034	.222	.114	.033	.212	.110	.032	.202	.106	.032	.192	.103	.031		
6.0	.211	.106	.030	.206	.104	.030	.196	.101	.029	.187	.097	.029	.179	.094	.028		
7.0	.196	.097	.028	.192	.096	.027	.183	.093	.027	.175	.090	.026	.167	.087	.026		
8.0	.183	.090	.025	.179	.088	.025	.171	.086	.024	.164	.083	.024	.157	.081	.023		
9.0	.172	.083	.023	.168	.082	.023	.161	.080	.023	.154	.077	.022	.148	.075	.022		
10.0	.162	.077	.021	.158	.076	.021	.151	.074	.021	.145	.072	.021	.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	.237	.237	.237	.202	.202	.202	.138	.138	.138	.079	.079	.079	.025	.025	.025	
1.0	.227	.203	.180	.195	.174	.155	.133	.120	.107	.077	.069	.062	.025	.022	.020	
2.0	.219	.179	.145	.188	.154	.125	.129	.106	.087	.074	.062	.051	.024	.020	.017	
3.0	.211	.161	.122	.181	.139	.105	.124	.097	.074	.072	.056	.044	.023	.018	.014	
4.0	.204	.148	.106	.175	.128	.092	.120	.089	.065	.070	.052	.038	.022	.017	.013	
5.0	.196	.138	.095	.169	.119	.083	.116	.083	.058	.067	.049	.035	.022	.016	.011	
6.0	.189	.130	.087	.163	.112	.076	.112	.079	.054	.065	.046	.032	.021	.015	.011	
7.0	.182	.123	.081	.157	.107	.071	.108	.075	.050	.063	.044	.030	.020	.014	.010	
8.0	.176	.117	.077	.151	.102	.067	.105	.071	.048	.061	.042	.028	.020	.014	.009	
9.0	.170	.112	.073	.146	.097	.064	.101	.068	.045	.059	.040	.027	.019	.013	.009	
10.0	.164	.108	.071	.142	.094	.062	.098	.066	.044	.057	.039	.026	.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:24.002V I:0.0556A P:1.3345W PF:1.0000 Freq:0Hz Lamp Flux:104.285x1 lm										
NAME: RIBDC-4-30K-AM					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.: RAYHIL					SUR.: 0.01*0.1			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	32.1	33.5	32.5	33.8	34.2	32.5	33.9	32.8	34.2	34.5
3H	33.6	34.9	34.0	35.2	35.6	34.2	35.6	34.6	35.9	36.3
4H	34.1	35.4	34.5	35.8	36.1	35.1	36.3	35.5	36.7	37.1
6H	34.5	35.7	35.0	36.1	36.5	35.9	37.0	36.3	37.4	37.8
8H	34.6	35.8	35.1	36.2	36.6	36.2	37.4	36.7	37.8	38.2
12H	34.7	35.8	35.1	36.2	36.6	36.6	37.7	37.1	38.1	38.6
4H 2H	32.8	34.0	33.2	34.4	34.7	33.0	34.3	33.4	34.6	35.0
3H	34.4	35.5	34.9	35.9	36.4	35.0	36.1	35.4	36.5	36.9
4H	35.1	36.1	35.6	36.6	37.0	36.0	37.0	36.4	37.4	37.9
6H	35.7	36.6	36.2	37.0	37.5	36.9	37.8	37.4	38.3	38.8
8H	35.8	36.7	36.3	37.1	37.7	37.4	38.2	37.9	38.7	39.2
12H	35.9	36.7	36.5	37.2	37.7	37.9	38.6	38.4	39.1	39.7
8H 4H	35.5	36.3	36.0	36.8	37.3	36.2	37.1	36.7	37.5	38.1
6H	36.2	36.9	36.8	37.4	38.0	37.4	38.1	37.9	38.6	39.1
8H	36.5	37.1	37.1	37.6	38.2	38.0	38.6	38.5	39.1	39.7
12H	36.7	37.2	37.3	37.8	38.4	38.6	39.1	39.2	39.7	40.3
12H 4H	35.6	36.3	36.1	36.8	37.3	36.2	37.0	36.8	37.5	38.0
6H	36.4	37.0	36.9	37.5	38.1	37.4	38.0	38.0	38.6	39.2
8H	36.7	37.2	37.3	37.8	38.4	38.1	38.6	38.7	39.2	39.8
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 0.2 / - 0.2					+ 0.1 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.1 / - 0.3					+ 0.1 / - 0.2				

CIE Pub.117, 104.3 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -7.9)  
Area: 0.001 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:24.002V I:0.0556A P:1.3345W PF:1.0000 Freq:0Hz Lamp Flux:104.285x1 lm		
NAME: RIBDC-4-30K-AM	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAYHIL	SUR.: 0.01*0.1	Shielding Angle:

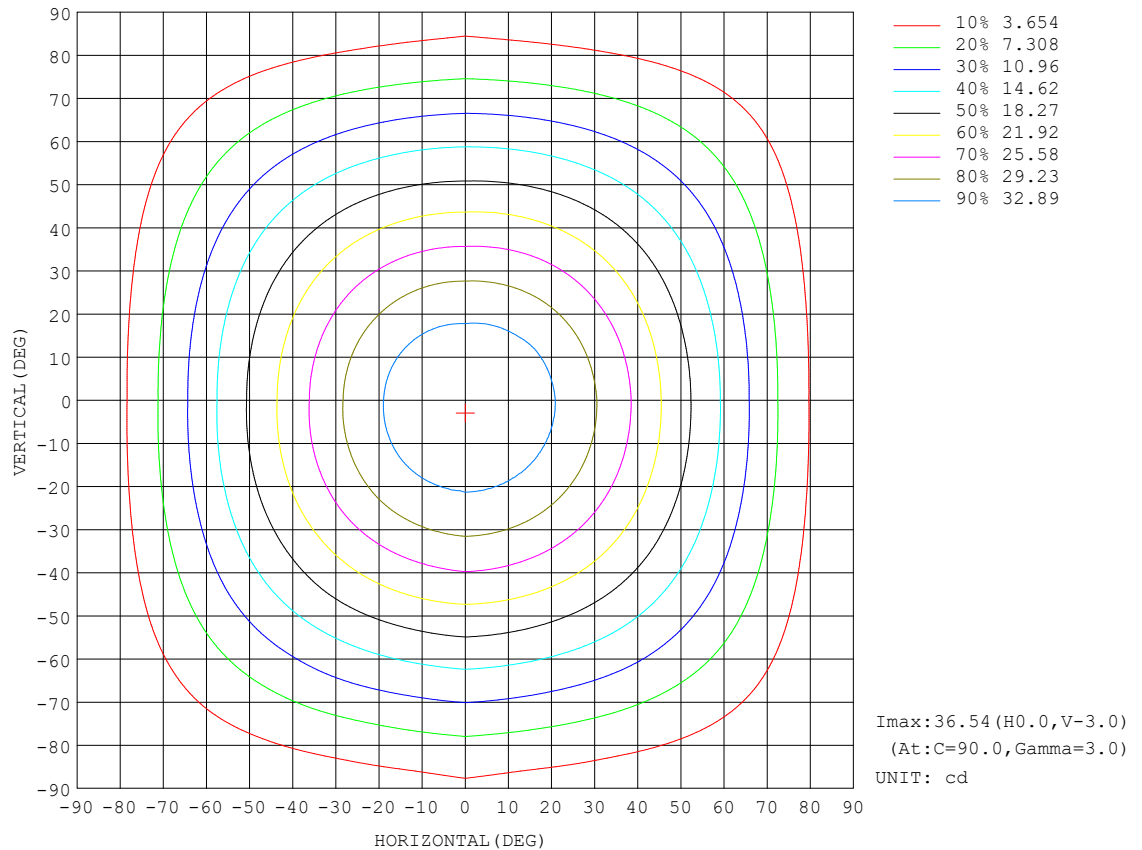
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT)    k(RI) x RCR = 5									
k = 0.60	56	44	38	55	44	37	54	43	37	31
0.80	66	54	47	65	54	46	62	53	46	39
1.00	74	63	55	72	62	55	70	63	54	47
1.25	81	70	63	79	69	62	76	67	61	53
1.50	86	76	68	84	74	68	80	72	66	58
2.00	93	84	77	90	82	76	86	79	74	65
2.50	97	88	82	94	87	81	89	83	78	69
3.00	100	93	87	97	91	85	92	87	83	73
4.00	104	98	93	101	96	91	96	91	88	77
5.00	106	101	97	104	99	95	98	94	91	80
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004										

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

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  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:24.002V I:0.0556A P:1.3345W PF:1.0000 Freq:0Hz Lamp Flux:104.285x1 lm		
NAME: RIBDC-4-30K-AM	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAYHIL	SUR.: 0.01*0.1	Shielding Angle:



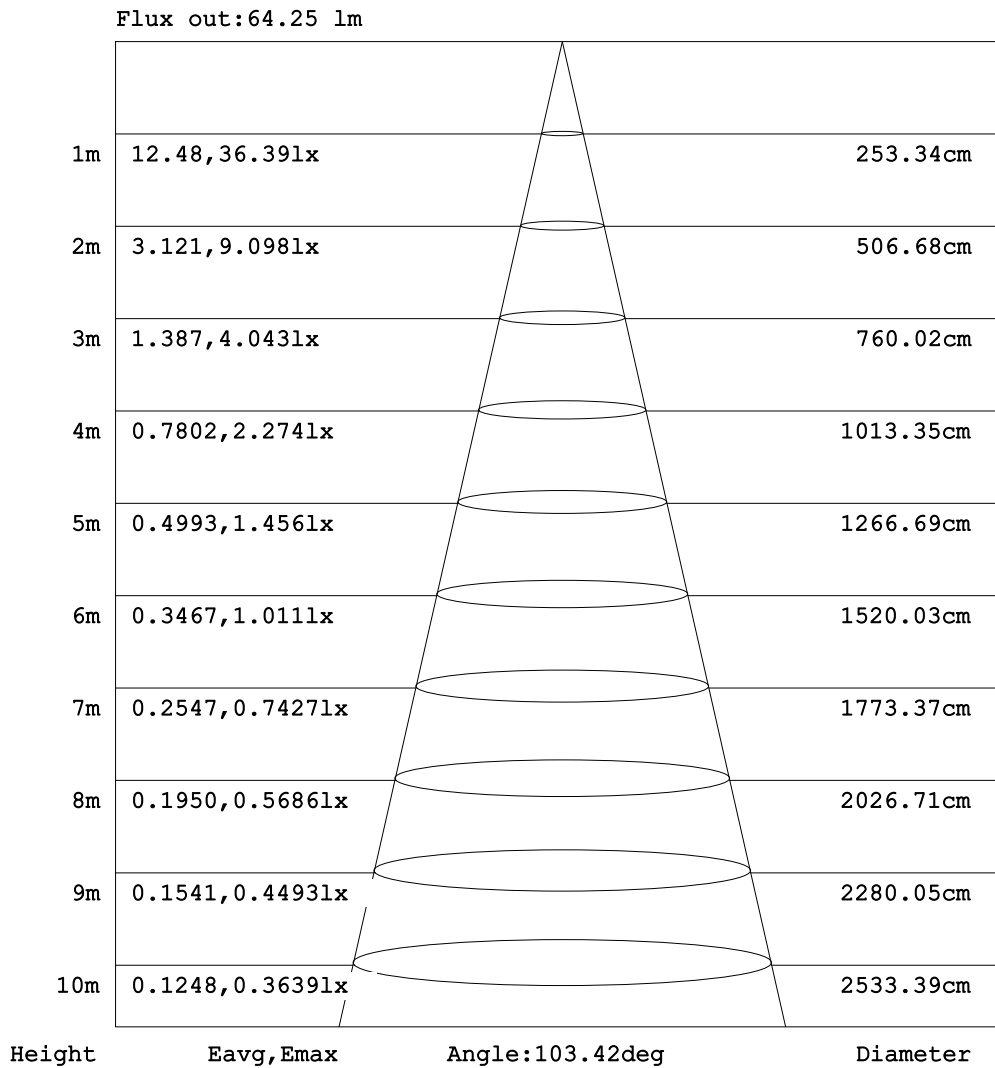
C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JZ  
Test Date:2023-08-08

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  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:24.002V I:0.0556A P:1.3345W PF:1.0000 Freq:0Hz Lamp Flux:104.285x1 lm		
NAME: RIBDC-4-30K-AM	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAYHIL	SUR.: 0.01*0.1	Shielding Angle:



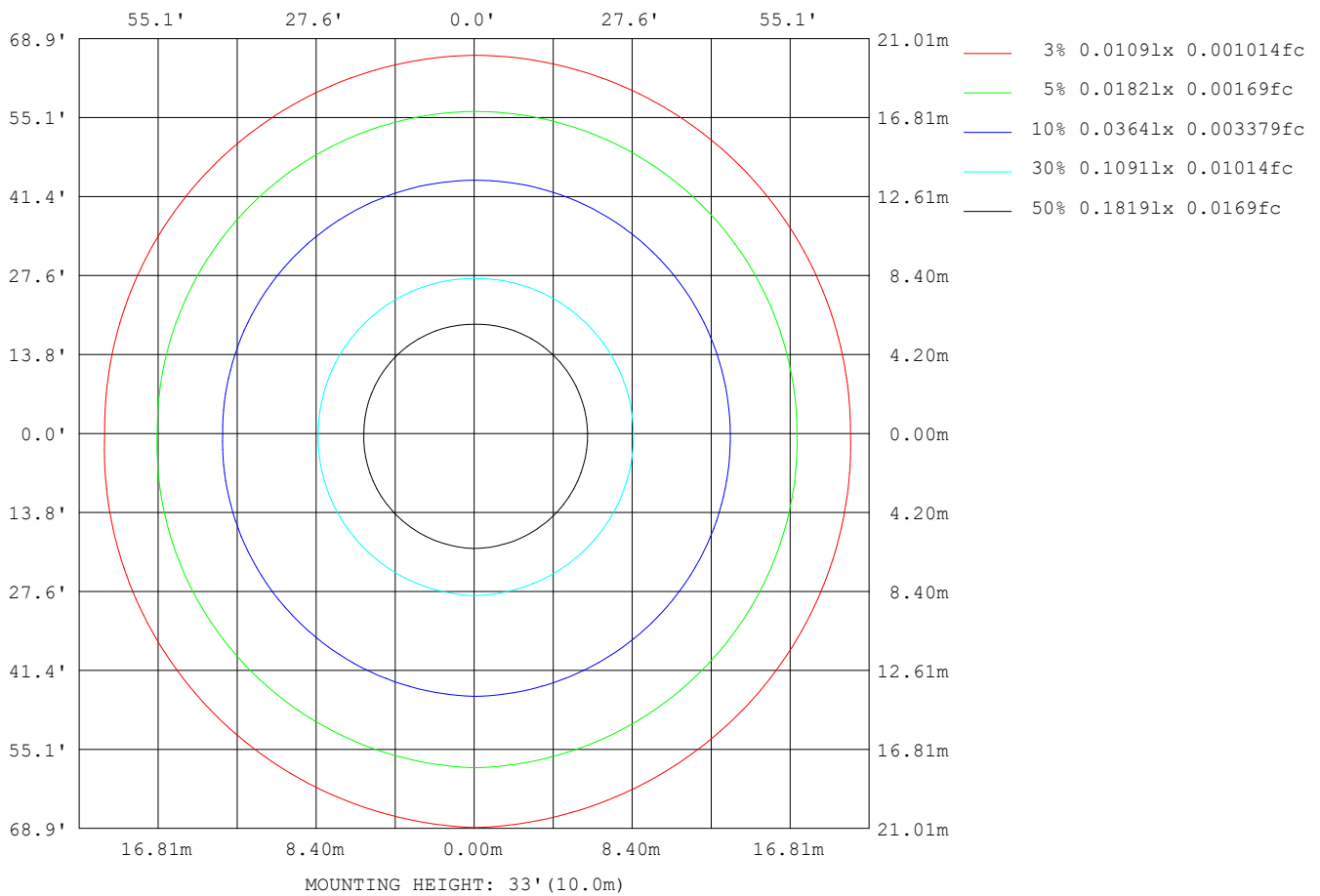
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:24.002V I:0.0556A P:1.3345W PF:1.0000 Freq:0Hz Lamp Flux:104.285x1 lm		
NAME: RIBDC-4-30K-AM	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAYHIL	SUR.: 0.01*0.1	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:24.002V I:0.0556A P:1.3345W PF:1.0000 Freq:0Hz Lamp Flux:104.285x1 lm		
NAME: RIBDC-4-30K-AM	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAYHIL	SUR.: 0.01*0.1	Shielding Angle:

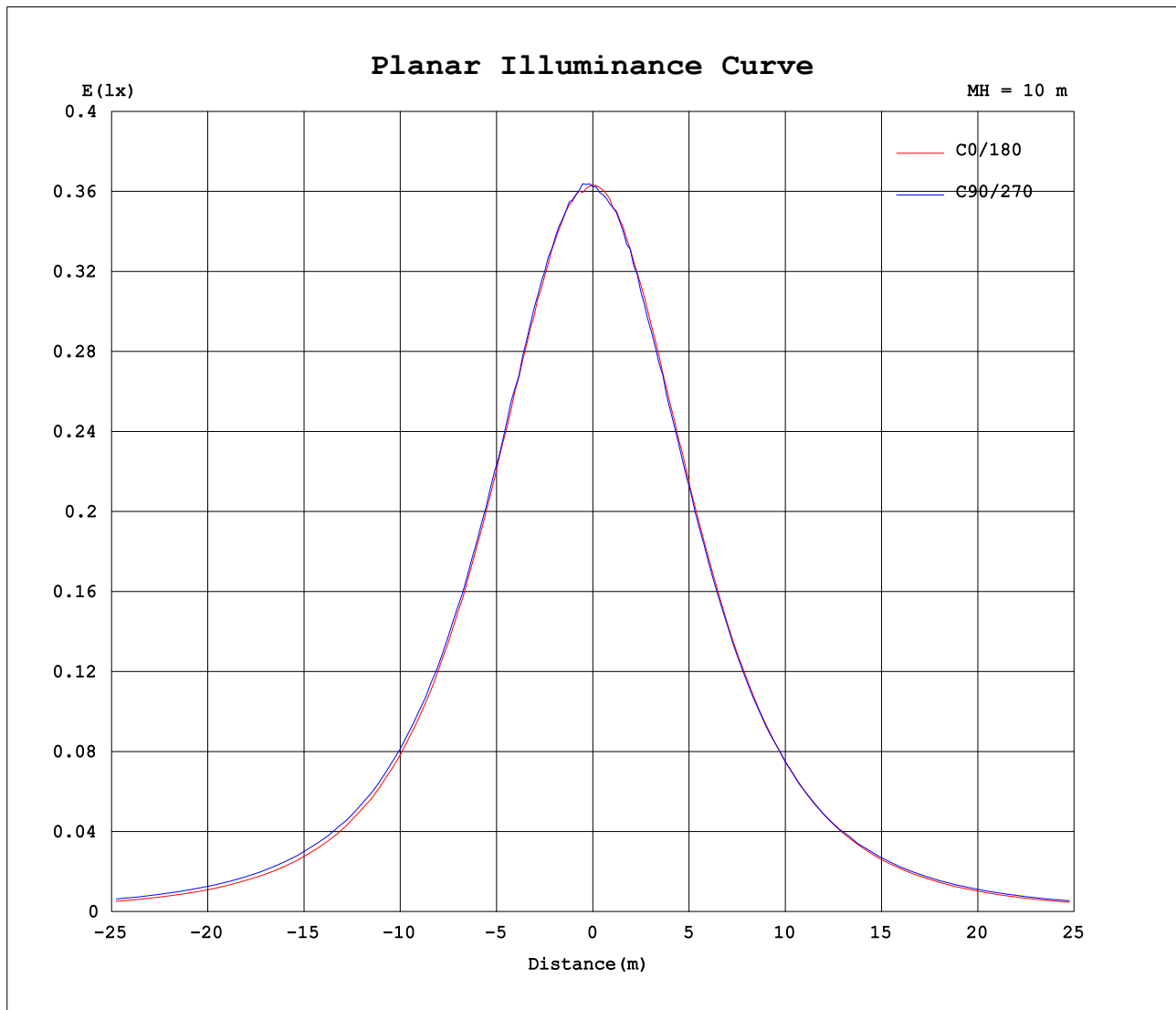
AvgL	cd/m2
L_0~180 (65) av	26097
L_0~180 (75) av	21750
L_0~180 (85) av	13713
L_90~270 (65) av	29769
L_90~270 (75) av	30527
L_90~270 (85) av	45849
L_45 (65) av	28323
L_45 (75) av	27160
L_45 (85) av	33628

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

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  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:24.002V I:0.0556A P:1.3345W PF:1.0000 Freq:0Hz Lamp Flux:104.285x1 lm		
NAME: RIBDC-4-30K-AM	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAYHIL	SUR.: 0.01*0.1	Shielding Angle:

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	90	180	270															
0	36.3	36.2	36.3	36.2															
5	36.2	36.3	36.1	35.8															
10	35.7	35.8	35.2	34.9															
15	34.5	34.9	34.1	33.7															
20	33.2	33.5	32.4	32.3															
25	31.5	31.7	30.7	30.3															
30	29.4	29.9	28.5	28.3															
35	27.3	27.8	26.2	26.0															
40	24.7	25.5	23.8	23.5															
45	22.1	23.0	21.2	21.2															
50	19.6	20.6	18.6	18.7															
55	16.9	18.2	16.0	16.5															
60	14.1	15.7	13.3	14.1															
65	11.5	13.4	10.6	11.7															
70	8.70	11.0	7.93	9.38															
75	5.94	8.69	5.32	7.11															
80	3.49	6.43	2.89	5.11															
85	1.43	4.49	0.96	3.50															
90	0.25	3.13	0.12	2.97															
95	0.04	2.88	0.05	2.92															
100	0.04	2.79	0.05	2.61															
105	0.04	2.76	0.06	1.97															
110	0.04	2.73	0.07	2.34															
115	0.04	2.67	0.07	2.47															
120	0.04	2.57	0.09	2.45															
125	0.04	2.46	0.10	2.25															
130	0.04	2.32	0.10	1.26															
135	0.04	2.12	0.12	0.15															
140	0.04	1.95	0.13	0.14															
145	0.05	1.71	0.14	0.14															
150	0.07	1.49	0.15	0.14															
155	0.10	0.86	0.15	0.14															
160	0.10	0.15	0.15	0.14															
165	0.12	0.15	0.16	0.14															
170	0.14	0.15	0.16	0.14															
175	0.15	0.16	0.17	0.15															
180	0.17	0.17	0.16	0.15															

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  
γ Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.444  
Humidity:65.0%  
Test Distance:8.700m [K=1.0000]  
Remarks: