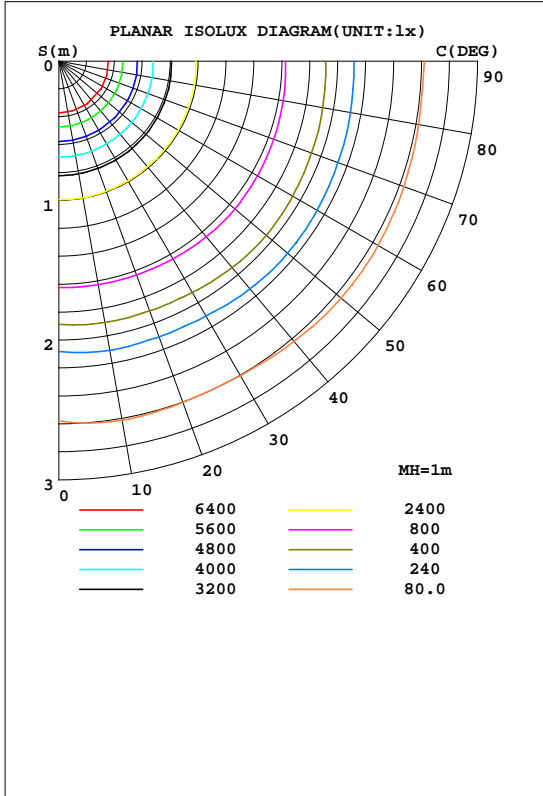
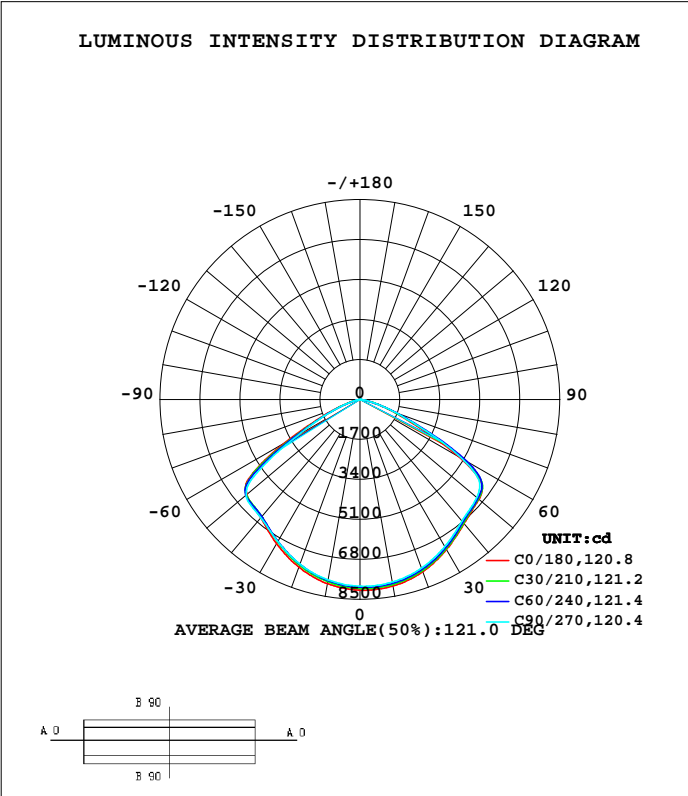


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:224.5V I:0.6810A P:147.6W PF:0.9653 Freq:59.98Hz Lamp Flux:23812.3x1 lm		
NAME: RK-HBL150W-02-G20-120D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 161.36 lm/W			
MODEL		I _{max} (cd)	8112	S/MH(C0/180)	1.31
NOMINAL POWER(W)	150	LOR(%)	100.0	S/MH(C90/270)	1.32
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	23812	h UP, DN(C0-180)	0.0,52.7
NOMINAL FLUX(lm)	23812.3	CIE CLASS	DIRECT	h UP, DN(C180-360)	0.0,47.3
LAMPS INSIDE	1	h up(%)	0.0	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)	220	h down(%)	100.0	CIBSE SHR MAX	1.55



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:04 January 2023

q Range: 0 - 90DEG
 q Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:11.900m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

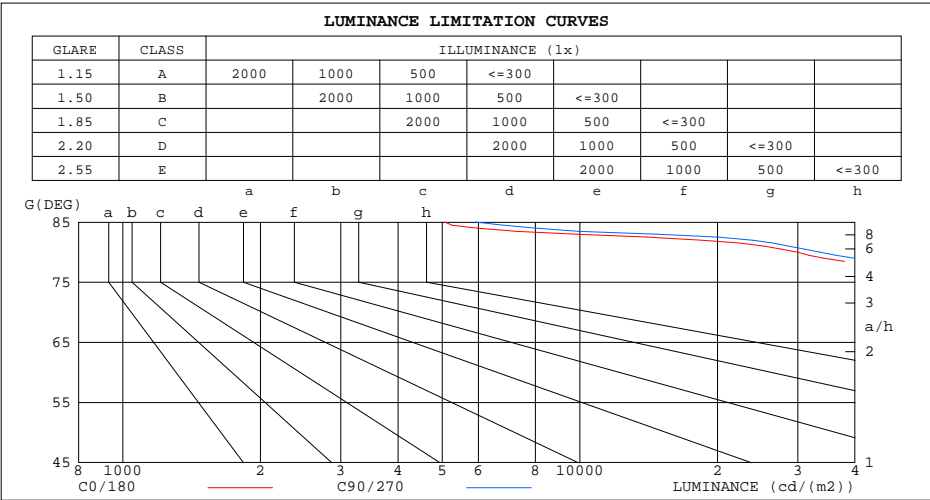
g	C0	C45	C90	C135	C180	C225	C270	C315	g	F zone	F total	%lum,lamp
10	8054	7970	7884	7816	7954	7836	7792	7786	0- 10	755.6	755.6	3.17,3.17
20	7797	7727	7637	7545	7593	7474	7452	7477	10- 20	2188	2943	12.4,12.4
30	7365	7316	7218	7104	7084	6971	6987	7035	20- 30	3396	6339	26.6,26.6
40	6885	6844	6751	6624	6566	6490	6561	6630	30- 40	4315	10654	44.7,44.7
50	6603	6565	6482	6403	6280	6323	6318	6408	40- 50	5058	15712	66,66
60	4814	5305	4981	4862	3694	3397	3075	3451	50- 60	5058	20770	87.2,87.2
70	1458	1603	1566	1461	947.7	804.9	822.9	901.1	60- 70	2410	23180	97.3,97.3
80	218.5	245.5	244.3	214.4	48.95	26.75	29.05	51.53	70- 80	592.9	23773	99.8,99.8
90	11.79	12.16	11.89	10.74	10.41	10.98	10.81	10.06	80- 90	39.04	23812	100,100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:cd Less than 35% Percent = 27.1 %									UNIT:lm		

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:04 January 2023

g Range: 0 - 90DEG
 g Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:11.900m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:224.5V I:0.6810A P:147.6W PF:0.9653 Freq:59.98Hz Lamp Flux:23812.3x1 lm		
NAME: RK-HBL150W-02-G20-120D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	5067	5908
80	29955	33491
75	59966	65337
70	101485	109033
65	150650	165153
60	229221	237181
55	262862	258034
50	244585	240099
45	226219	222549

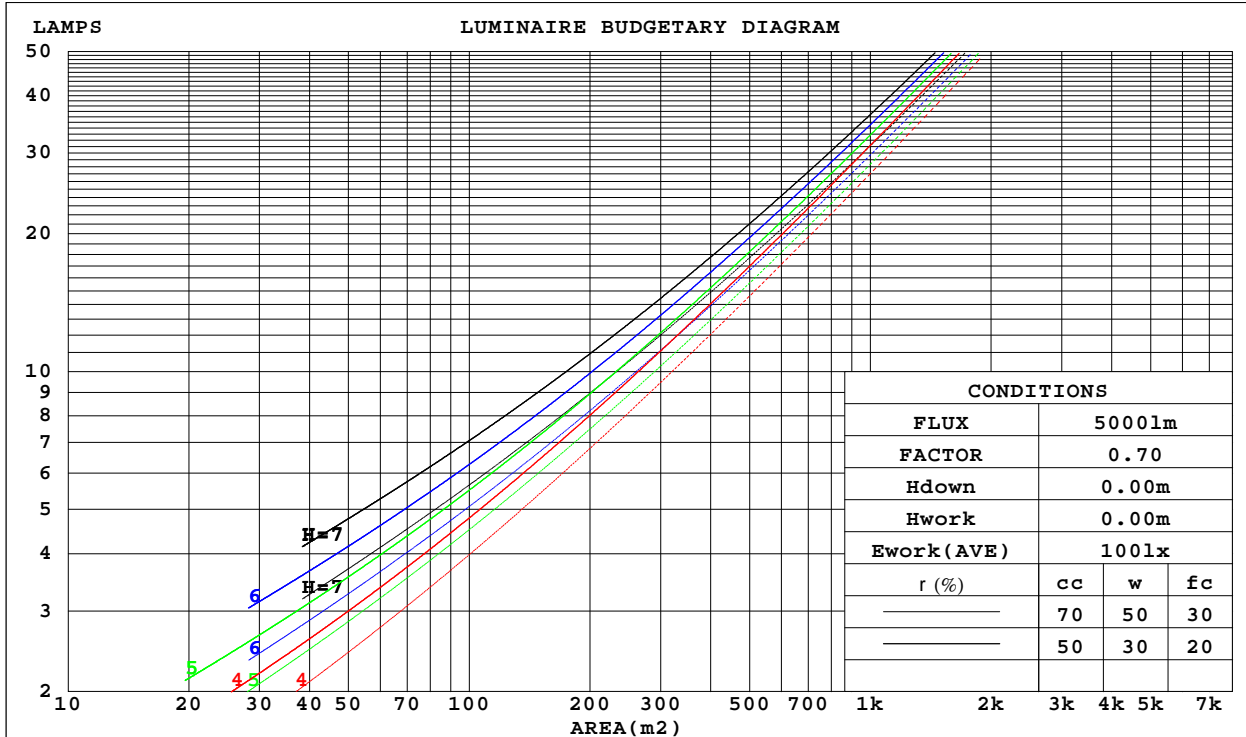
C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:04 January 2023

g Range: 0 - 90DEG
 g Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:11.900m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:224.5V I:0.6810A P:147.6W PF:0.9653 Freq:59.98Hz Lamp Flux:23812.3x1 lm		
NAME: RK-HBL150W-02-G20-120D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	Shielding Angle:

r _{cc}	80%			70%			50%			30%			10%			0
r _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
r _{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1.0	1.06	1.02	.99	1.04	1.00	.97	.99	.97	.94	.96	.93	.91	.92	.90	.89	.87
2.0	.93	.87	.81	.91	.85	.80	.88	.83	.79	.84	.80	.77	.81	.78	.75	.73
3.0	.82	.74	.68	.80	.73	.67	.77	.71	.66	.75	.69	.65	.72	.68	.64	.62
4.0	.72	.64	.57	.71	.63	.57	.69	.62	.56	.66	.60	.56	.64	.59	.55	.53
5.0	.64	.56	.49	.63	.55	.49	.61	.54	.48	.59	.53	.48	.57	.52	.47	.45
6.0	.58	.49	.43	.57	.49	.42	.55	.48	.42	.53	.47	.42	.52	.46	.41	.39
7.0	.52	.43	.37	.51	.43	.37	.50	.42	.37	.48	.42	.37	.47	.41	.36	.34
8.0	.47	.39	.33	.47	.39	.33	.45	.38	.33	.44	.37	.33	.43	.37	.32	.30
9.0	.43	.35	.30	.43	.35	.30	.42	.34	.29	.41	.34	.29	.39	.33	.29	.27
10.0	.40	.32	.27	.39	.32	.27	.38	.31	.26	.37	.31	.26	.36	.31	.26	.24



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:04 January 2023

g Range: 0 - 90DEG
 g Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:11.900m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:224.5V I:0.6810A P:147.6W PF:0.9653 Freq:59.98Hz Lamp Flux:23812.3x1 lm		
NAME: RK-HBL150W-02-G20-120D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	Shielding Angle:

r cc	80%			70%			50%			30%			10%			0
r w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
r fc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.271	.154	.049	.264	.151	.048	.251	.144	.046	.239	.138	.044	.228	.132	.043	
2.0	.267	.146	.045	.261	.144	.044	.249	.139	.043	.239	.134	.042	.229	.130	.041	
3.0	.254	.135	.040	.249	.133	.040	.238	.129	.039	.229	.125	.038	.220	.122	.038	
4.0	.239	.124	.036	.234	.122	.036	.225	.119	.036	.217	.116	.035	.209	.113	.035	
5.0	.224	.114	.033	.219	.113	.033	.211	.110	.032	.204	.108	.032	.197	.105	.032	
6.0	.209	.105	.030	.206	.104	.030	.198	.102	.030	.192	.100	.029	.185	.098	.029	
7.0	.196	.097	.027	.193	.096	.027	.186	.094	.027	.180	.092	.027	.175	.091	.027	
8.0	.184	.090	.025	.181	.089	.025	.175	.088	.025	.170	.086	.025	.165	.085	.025	
9.0	.173	.084	.023	.170	.083	.023	.165	.082	.023	.160	.080	.023	.156	.079	.023	
10.0	.163	.078	.022	.161	.078	.022	.156	.076	.022	.151	.075	.021	.147	.074	.021	

r cc	80%			70%			50%			30%			10%			0
r w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
r fc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.178	.156	.137	.152	.134	.118	.104	.092	.082	.060	.053	.048	.019	.017	.015	
2.0	.169	.132	.101	.145	.114	.087	.099	.079	.061	.057	.046	.036	.018	.015	.012	
3.0	.161	.114	.077	.138	.099	.066	.095	.068	.047	.055	.040	.027	.018	.013	.009	
4.0	.154	.101	.060	.132	.087	.052	.091	.061	.037	.053	.036	.022	.017	.012	.007	
5.0	.147	.090	.048	.127	.078	.042	.087	.055	.030	.051	.032	.018	.016	.010	.006	
6.0	.141	.082	.040	.121	.071	.035	.083	.050	.024	.048	.029	.015	.016	.010	.005	
7.0	.134	.075	.034	.116	.065	.029	.080	.046	.021	.046	.027	.012	.015	.009	.004	
8.0	.128	.069	.029	.110	.060	.025	.076	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.122	.064	.025	.105	.056	.022	.073	.039	.016	.043	.023	.009	.014	.008	.003	
10.0	.117	.060	.022	.101	.052	.020	.070	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:04 January 2023

g Range: 0 - 90DEG
 g Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:11.900m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:224.5V I:0.6810A P:147.6W PF:0.9653 Freq:59.98Hz Lamp Flux:23812.3x1 lm										
NAME: RK-HBL150W-02-G20-120D					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.: EVERFINE					SUR.:			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	21.8	23.3	22.1	23.5	23.7	21.9	23.4	22.1	23.6	23.8
3H	22.3	23.6	22.6	23.9	24.1	22.4	23.8	22.7	24.0	24.2
4H	22.3	23.6	22.6	23.8	24.1	22.5	23.8	22.8	24.0	24.3
6H	22.2	23.4	22.6	23.7	24.0	22.4	23.6	22.7	23.9	24.2
8H	22.2	23.4	22.5	23.6	23.9	22.4	23.5	22.7	23.8	24.1
12H	22.1	23.3	22.5	23.5	23.8	22.3	23.4	22.7	23.7	24.0
4H 2H	22.2	23.5	22.5	23.8	24.0	22.3	23.6	22.6	23.8	24.1
3H	22.8	23.9	23.1	24.2	24.5	22.9	24.0	23.3	24.3	24.6
4H	22.8	23.8	23.2	24.2	24.5	23.0	24.0	23.4	24.3	24.7
6H	22.8	23.7	23.2	24.0	24.4	23.0	23.9	23.4	24.2	24.6
8H	22.8	23.6	23.2	24.0	24.3	23.0	23.8	23.4	24.1	24.5
12H	22.7	23.5	23.2	23.9	24.3	22.9	23.7	23.3	24.0	24.4
8H 4H	22.8	23.6	23.2	24.0	24.4	23.0	23.8	23.4	24.1	24.5
6H	22.8	23.5	23.2	23.9	24.3	23.0	23.6	23.4	24.0	24.5
8H	22.8	23.4	23.2	23.8	24.2	22.9	23.5	23.4	24.0	24.4
12H	22.7	23.2	23.2	23.7	24.2	22.9	23.4	23.4	23.9	24.3
12H 4H	22.8	23.5	23.2	23.9	24.3	22.9	23.7	23.3	24.1	24.5
6H	22.8	23.4	23.2	23.8	24.2	22.9	23.5	23.4	23.9	24.4
8H	22.8	23.3	23.2	23.7	24.2	22.9	23.4	23.4	23.9	24.3
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.2				
1.5H	+ 1.1 / - 1.2					+ 1.0 / - 1.1				
2.0H	+ 0.8 / - 1.4					+ 0.7 / - 1.5				

CIE Pub.117, 23812 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 11.0)

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:04 January 2023

g Range: 0 - 90DEG
 g Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:11.900m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:224.5V I:0.6810A P:147.6W PF:0.9653 Freq:59.98Hz Lamp Flux:23812.3x1 lm		
NAME: RK-HBL150W-02-G20-120D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	Shielding Angle:

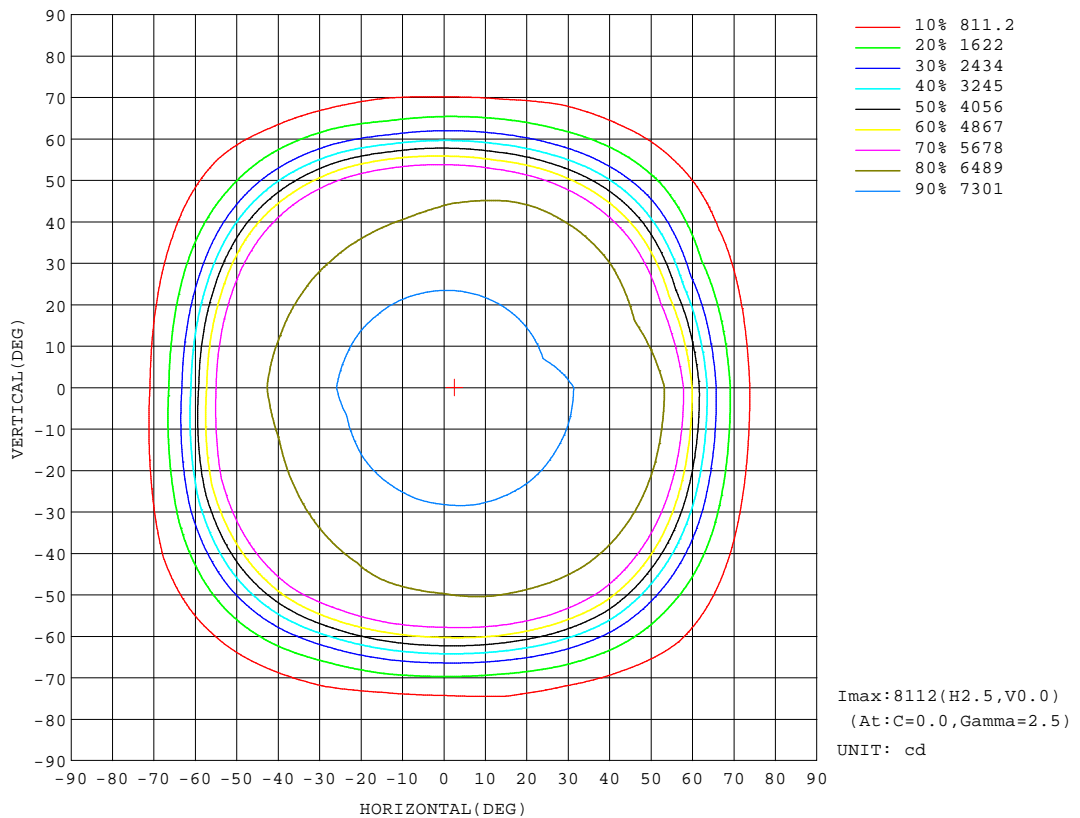
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	56	44	37	56	44	37	54	44	37	30
0.80	68	56	49	66	55	48	65	55	48	41
1.00	77	66	59	76	66	59	74	67	58	52
1.25	85	75	68	83	74	68	81	73	67	60
1.50	90	81	74	88	80	74	86	78	73	65
2.00	97	89	83	95	88	83	92	86	81	74
2.50	101	94	88	99	92	87	95	90	85	77
3.00	104	98	93	102	96	92	98	93	90	81
4.00	108	103	98	105	101	97	101	97	94	86
5.00	110	105	102	107	103	100	103	100	97	88
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:04 January 2023

g Range: 0 - 90DEG
 g Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:11.900m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:224.5V I:0.6810A P:147.6W PF:0.9653 Freq:59.98Hz Lamp Flux:23812.3x1 lm		
NAME: RK-HBL150W-02-G20-120D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	Shielding Angle:



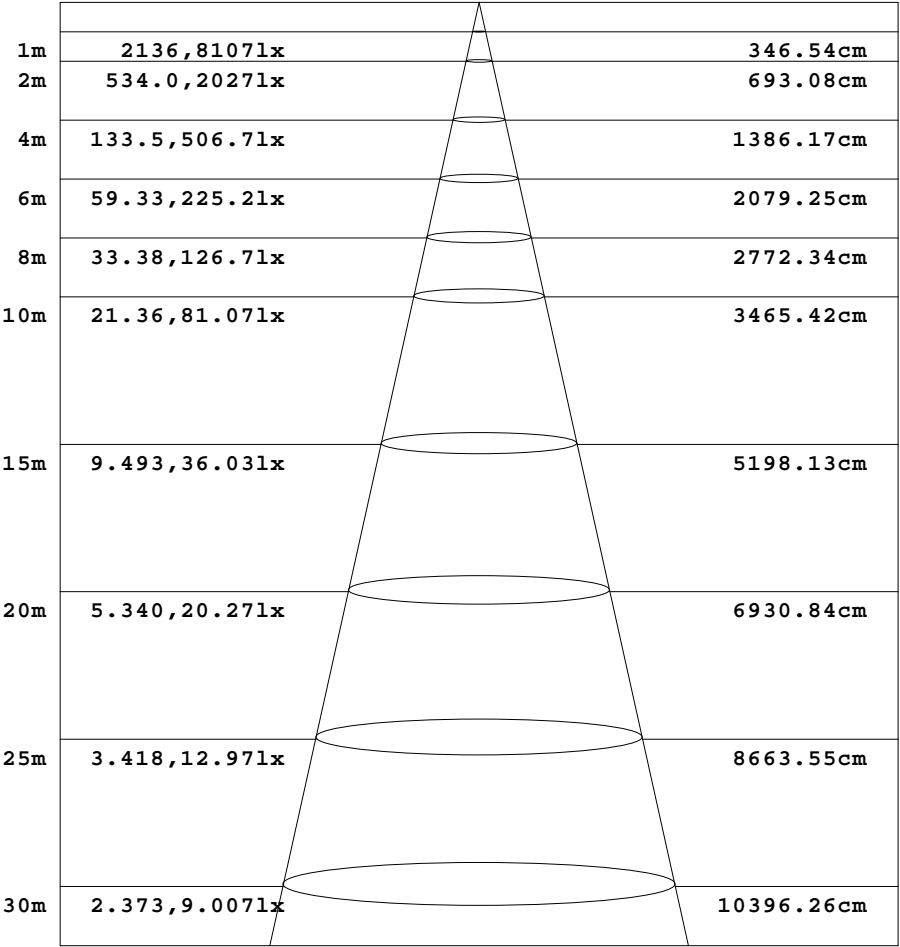
C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 04 January 2023

g Range: 0 - 90DEG
 g Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity: 65.0%
 Test Distance: 11.900m [K=1.0000]
 Remarks:

AAI Figure

Test:U:224.5V I:0.6810A P:147.6W PF:0.9653 Freq:59.98Hz Lamp Flux:23812.3x1 lm		
NAME: RK-HBL150W-02-G20-120D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	Shielding Angle:

Flux out:20964 lm



Height Eavg, Emax Angle:120.02deg Diameter

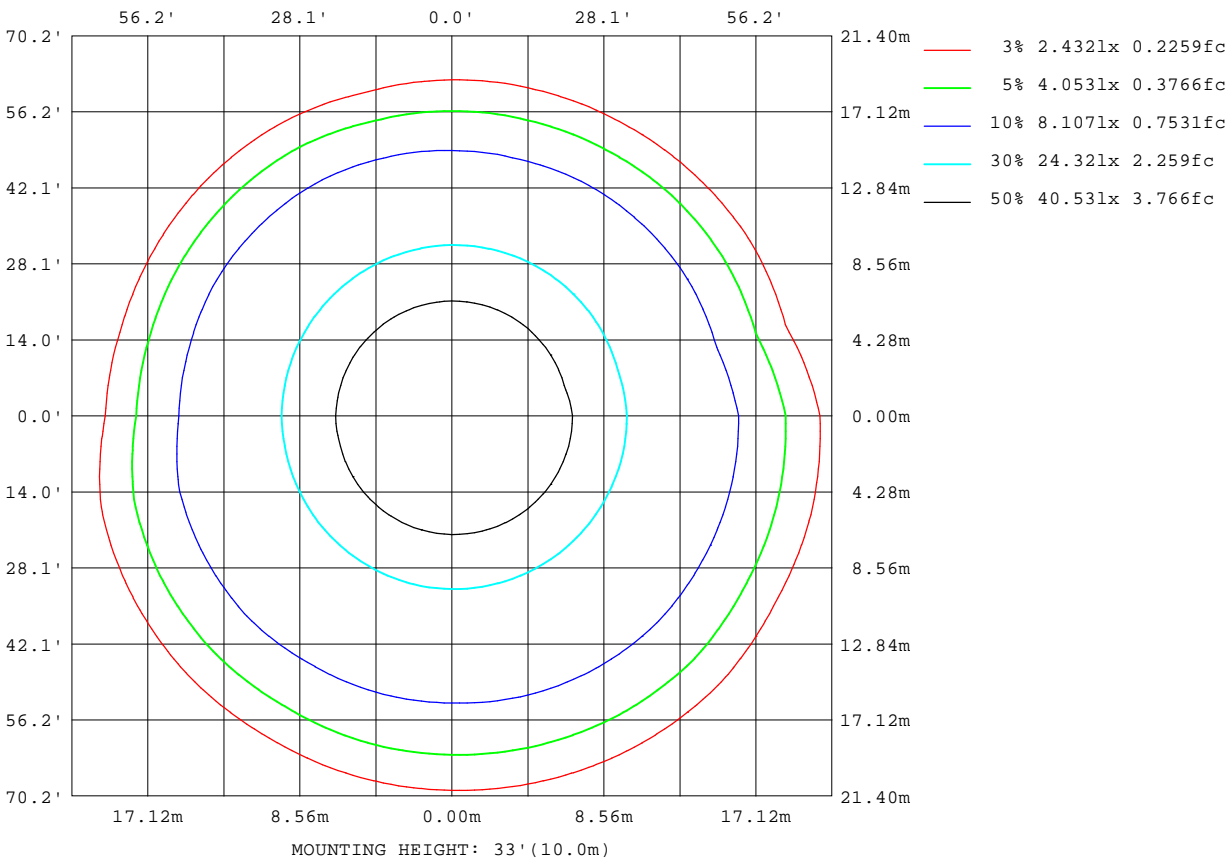
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:04 January 2023

g Range: 0 - 90DEG
 g Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:11.900m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:224.5V I:0.6810A P:147.6W PF:0.9653 Freq:59.98Hz Lamp Flux:23812.3x1 lm		
NAME: RK-HBL150W-02-G20-120D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 04 January 2023

g Range: 0 - 90DEG
 g Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity: 65.0%
 Test Distance: 11.900m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:224.5V I:0.6810A P:147.6W PF:0.9653 Freq:59.98Hz Lamp Flux:23812.3x1 lm		
NAME: RK-HBL150W-02-G20-120D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	Shielding Angle:

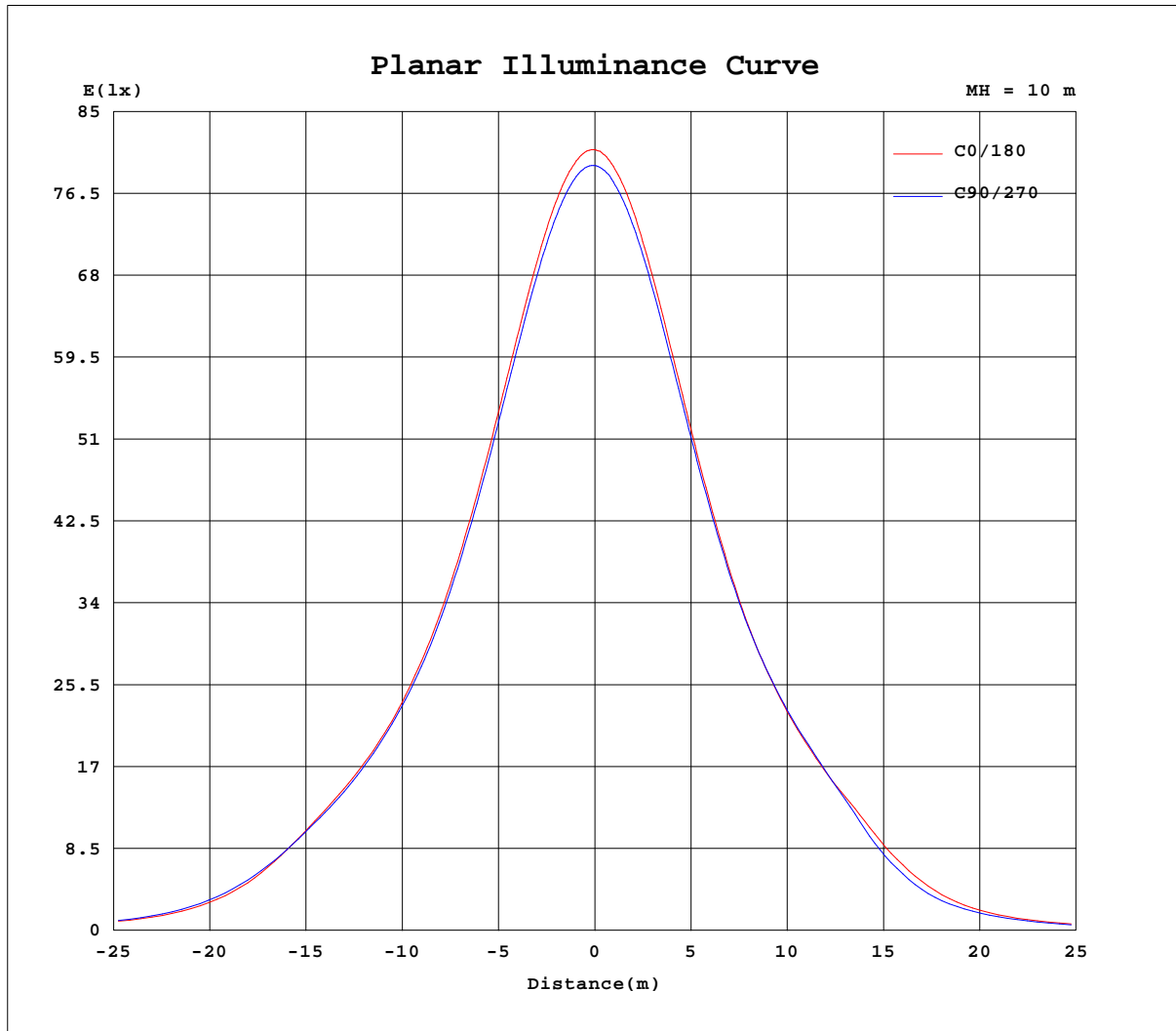
AvgL	cd/m2
L_0~180(65)av	129963
L_0~180(75)av	46631
L_0~180(85)av	4164
L_90~270(65)av	130356
L_90~270(75)av	46714
L_90~270(85)av	4571
L_45(65)av	133480
L_45(75)av	45448
L_45(85)av	4354

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:04 January 2023

g Range: 0 - 90DEG
 g Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:11.900m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 04 January 2023

g Range: 0 - 90DEG
 g Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity: 65.0%
 Test Distance: 11.900m [K=1.0000]
 Remarks:

