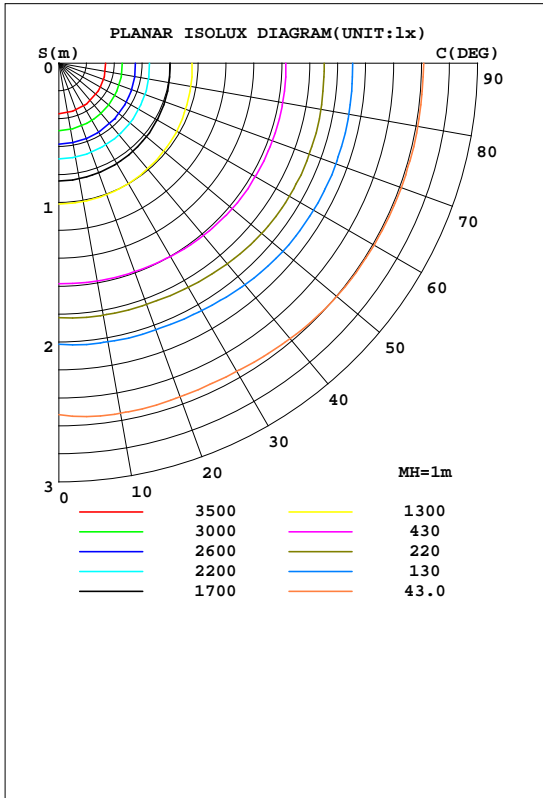
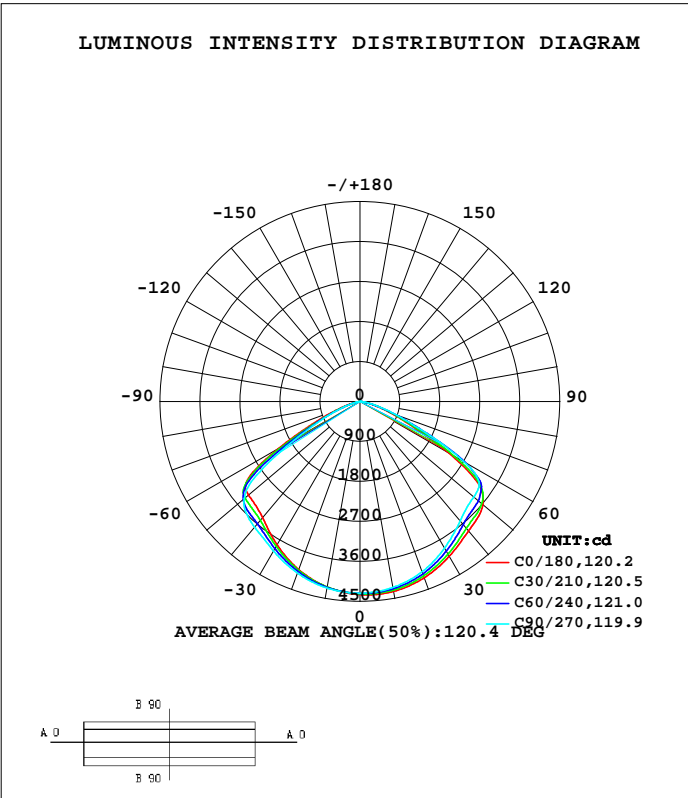


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:224.9V I:0.3728A P:77.33W PF:0.9220 Freq:59.98Hz Lamp Flux:12786.7x1 lm		
NAME: RK-HBL80W-02-G20-120D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 165.35 lm/W			
MODEL		I _{max} (cd)	4359	S/MH(C0/180)	1.28
NOMINAL POWER(W)	80	LOR(%)	100.0	S/MH(C90/270)	1.35
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	12787	h UP, DN(C0-180)	0.0,52.1
NOMINAL FLUX(lm)	12786.7	CIE CLASS	DIRECT	h UP, DN(C180-360)	0.0,47.9
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:05 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:

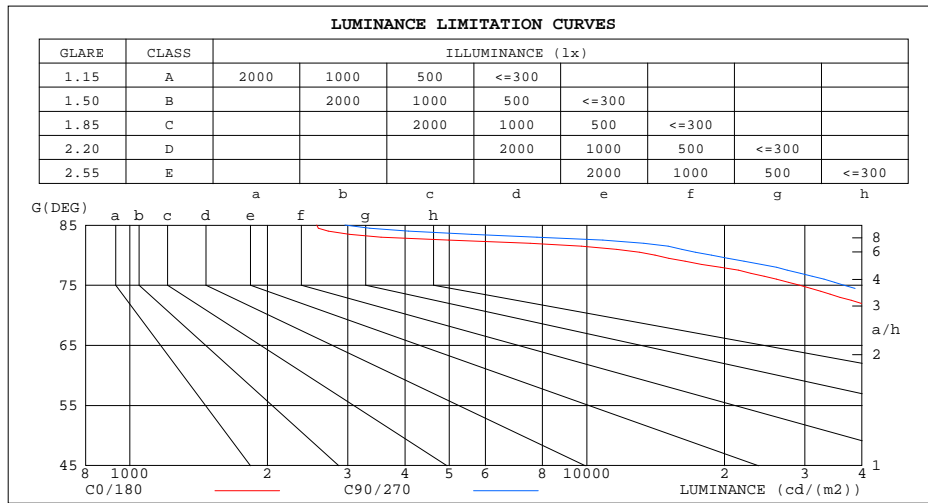
g	C0	C45	C90	C135	C180	C225	C270	C315	g	F zone	F total	%lum,lamp
10	4342	4297	4251	4223	4242	4243	4267	4281	0- 10	409.7	409.7	3.2,3.2
20	4223	4159	4082	4027	4028	4056	4113	4149	10- 20	1185	1595	12.5,12.5
30	4023	3932	3811	3739	3729	3797	3891	3946	20- 30	1840	3435	26.9,26.9
40	3805	3679	3511	3409	3416	3543	3694	3762	30- 40	2335	5771	45.1,45.1
50	3611	3542	3347	3206	3279	3415	3403	3484	40- 50	2714	8484	66.4,66.4
60	2273	2622	2679	2906	2125	1918	1622	1697	50- 60	2677	11162	87.3,87.3
70	695.3	800.0	848.9	883.0	550.0	452.5	435.9	448.4	60- 70	1288	12449	97.4,97.4
80	102.9	124.3	136.6	124.8	34.48	16.87	16.17	22.44	70- 80	317.0	12766	99.8,99.8
90	6.019	6.438	6.043	5.947	4.952	5.527	5.827	5.851	80- 90	20.43	12787	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 = 24.8 %									UNIT:lm		

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:05 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:224.9V I:0.3728A P:77.33W PF:0.9220 Freq:59.98Hz Lamp Flux:12786.7x1 lm		
NAME: RK-HBL80W-02-G20-120D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	2565	2956
80	14114	18728
75	29220	36518
70	48404	59098
65	70544	87259
60	108245	127558
55	135942	136054
50	133743	123980
45	125616	114318

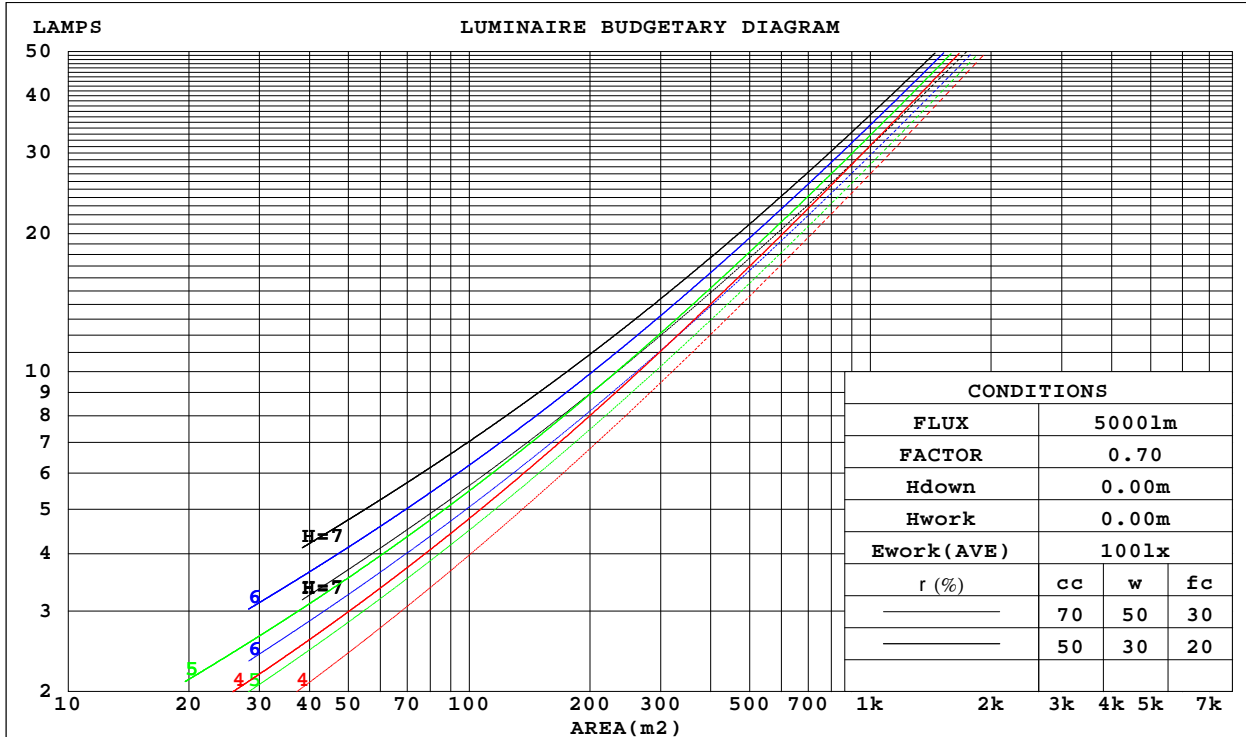
C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 05 January 2023

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:224.9V I:0.3728A P:77.33W PF:0.9220 Freq:59.98Hz Lamp Flux:12786.7x1 lm		
NAME: RK-HBL80W-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	.82	.91	.85	.81	.88	.83	.79	.85	.80	.77	.82	.78	.75	.73
3.0	.82	.74	.68	.80	.73	.67	.77	.71	.66	.75	.70	.65	.72	.68	.64	.62
4.0	.73	.64	.58	.71	.63	.57	.69	.62	.56	.66	.60	.56	.64	.59	.55	.53
5.0	.65	.56	.49	.64	.55	.49	.61	.54	.49	.59	.53	.48	.58	.52	.48	.45
6.0	.58	.49	.43	.57	.49	.43	.55	.48	.42	.54	.47	.42	.52	.46	.42	.39
7.0	.52	.44	.38	.52	.43	.37	.50	.43	.37	.49	.42	.37	.47	.41	.37	.35
8.0	.48	.39	.33	.47	.39	.33	.46	.38	.33	.44	.38	.33	.43	.37	.33	.31
9.0	.43	.35	.30	.43	.35	.30	.42	.35	.30	.41	.34	.29	.40	.34	.29	.27
10.0	.40	.32	.27	.39	.32	.27	.38	.31	.27	.38	.31	.27	.37	.31	.26	.25



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:05 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:224.9V I:0.3728A P:77.33W PF:0.9220 Freq:59.98Hz Lamp Flux:12786.7x1 lm		
NAME: RK-HBL80W-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	.150	.048	.250	.144	.046	.238	.138	.044	.227	.132	.042	
2.0	.266	.146	.045	.260	.143	.044	.249	.138	.043	.238	.134	.042	.228	.129	.041	
3.0	.253	.135	.040	.248	.133	.040	.238	.129	.039	.228	.125	.038	.220	.122	.038	
4.0	.238	.124	.036	.233	.122	.036	.224	.119	.036	.216	.116	.035	.208	.113	.034	
5.0	.223	.114	.033	.219	.112	.033	.211	.110	.032	.203	.107	.032	.196	.105	.032	
6.0	.209	.105	.030	.205	.104	.030	.198	.101	.030	.191	.099	.029	.185	.097	.029	
7.0	.196	.097	.027	.192	.096	.027	.186	.094	.027	.180	.092	.027	.174	.091	.027	
8.0	.184	.090	.025	.181	.089	.025	.175	.087	.025	.169	.086	.025	.164	.084	.025	
9.0	.173	.084	.023	.170	.083	.023	.165	.081	.023	.160	.080	.023	.155	.079	.023	
10.0	.163	.078	.022	.160	.077	.022	.156	.076	.021	.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	.126	.078	.042	.087	.055	.030	.050	.032	.018	.016	.010	.006	
6.0	.141	.082	.040	.121	.071	.035	.083	.050	.025	.048	.029	.015	.016	.010	.005	
7.0	.134	.075	.034	.115	.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	.023	.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:05 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:224.9V I:0.3728A P:77.33W PF:0.9220 Freq:59.98Hz Lamp Flux:12786.7x1 lm										
NAME: RK-HBL80W-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	21.4	22.9	21.6	23.1	23.3	21.7	23.2	22.0	23.4	23.6
3H	21.8	23.1	22.1	23.4	23.6	22.3	23.6	22.6	23.9	24.1
4H	21.8	23.1	22.1	23.3	23.6	22.3	23.6	22.6	23.9	24.1
6H	21.7	22.9	22.1	23.2	23.5	22.3	23.5	22.6	23.8	24.0
8H	21.7	22.8	22.0	23.1	23.4	22.2	23.4	22.6	23.7	24.0
12H	21.6	22.7	22.0	23.0	23.3	22.2	23.3	22.5	23.6	23.9
4H 2H	21.8	23.1	22.1	23.3	23.6	22.1	23.4	22.4	23.6	23.9
3H	22.3	23.4	22.6	23.7	24.0	22.7	23.8	23.0	24.1	24.4
4H	22.3	23.3	22.7	23.6	24.0	22.8	23.8	23.2	24.1	24.5
6H	22.3	23.2	22.7	23.5	23.9	22.8	23.7	23.2	24.0	24.4
8H	22.3	23.1	22.7	23.4	23.8	22.8	23.6	23.2	23.9	24.3
12H	22.2	23.0	22.6	23.3	23.7	22.7	23.5	23.1	23.8	24.2
8H 4H	22.3	23.1	22.7	23.5	23.9	22.8	23.6	23.2	23.9	24.3
6H	22.3	23.0	22.7	23.4	23.8	22.8	23.4	23.2	23.8	24.3
8H	22.3	22.8	22.7	23.3	23.7	22.7	23.3	23.2	23.7	24.2
12H	22.2	22.7	22.7	23.2	23.6	22.7	23.2	23.2	23.6	24.1
12H 4H	22.3	23.0	22.7	23.4	23.8	22.7	23.5	23.1	23.8	24.2
6H	22.3	22.8	22.7	23.3	23.7	22.7	23.3	23.2	23.7	24.2
8H	22.2	22.7	22.7	23.2	23.6	22.7	23.2	23.2	23.7	24.1
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
1.5H	+ 1.0 / - 1.3					+ 1.1 / - 1.2				
2.0H	+ 0.8 / - 1.5					+ 0.8 / - 1.6				

CIE Pub.117, 12787 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 8.9)

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:05 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:224.9V I:0.3728A P:77.33W PF:0.9220 Freq:59.98Hz Lamp Flux:12786.7x1 lm		
NAME: RK-HBL80W-02-G20-120D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	Shielding Angle:

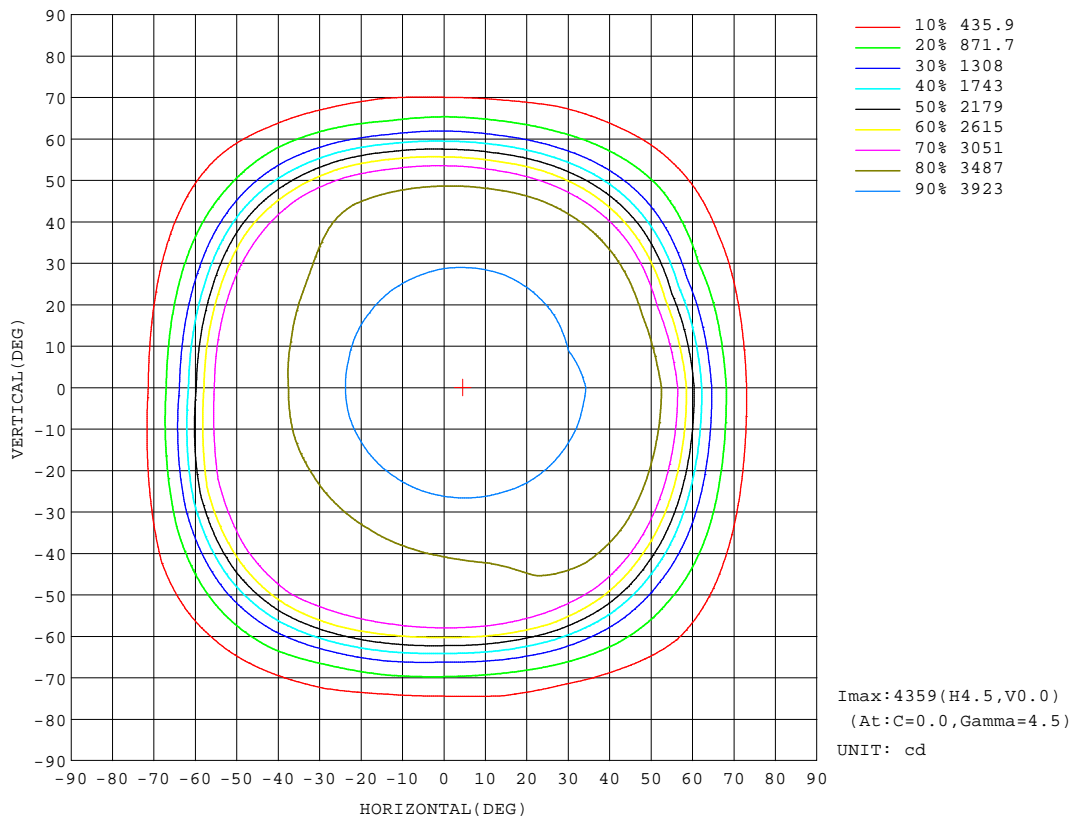
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	57	45	38	56	45	38	55	44	37	31
0.80	68	56	49	67	56	49	65	55	48	41
1.00	77	67	60	76	66	59	74	67	59	52
1.25	85	75	68	84	74	68	81	73	67	60
1.50	90	81	74	89	80	74	86	78	73	66
2.00	97	89	84	95	88	83	92	86	81	74
2.50	101	94	88	99	92	87	95	90	85	78
3.00	104	98	93	102	96	92	98	93	90	82
4.00	108	103	98	105	101	97	101	98	94	86
5.00	110	105	102	107	104	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:05 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:224.9V I:0.3728A P:77.33W PF:0.9220 Freq:59.98Hz Lamp Flux:12786.7x1 lm		
NAME: RK-HBL80W-02-G20-120D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	Shielding Angle:



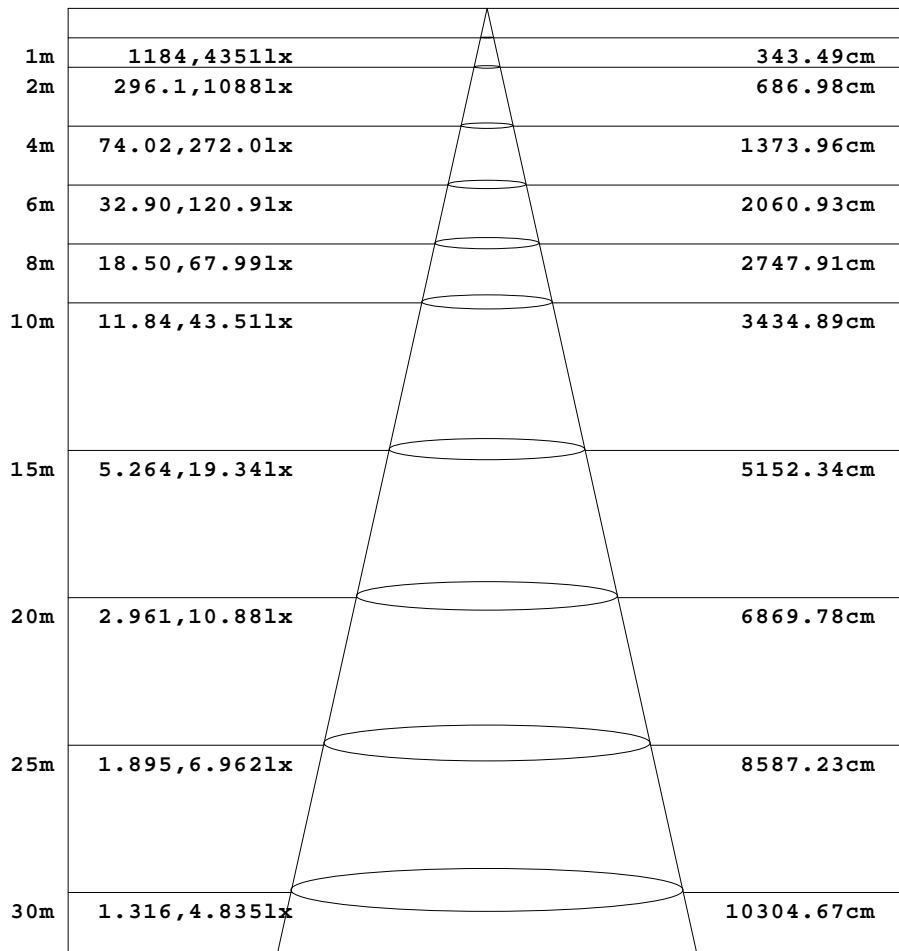
C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 05 January 2023

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:224.9V I:0.3728A P:77.33W PF:0.9220 Freq:59.98Hz Lamp Flux:12786.7x1 lm		
NAME: RK-HBL80W-02-G20-120D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	Shielding Angle:

Flux out:11162 lm



Height Eavg, Emax Angle:119.58deg Diameter

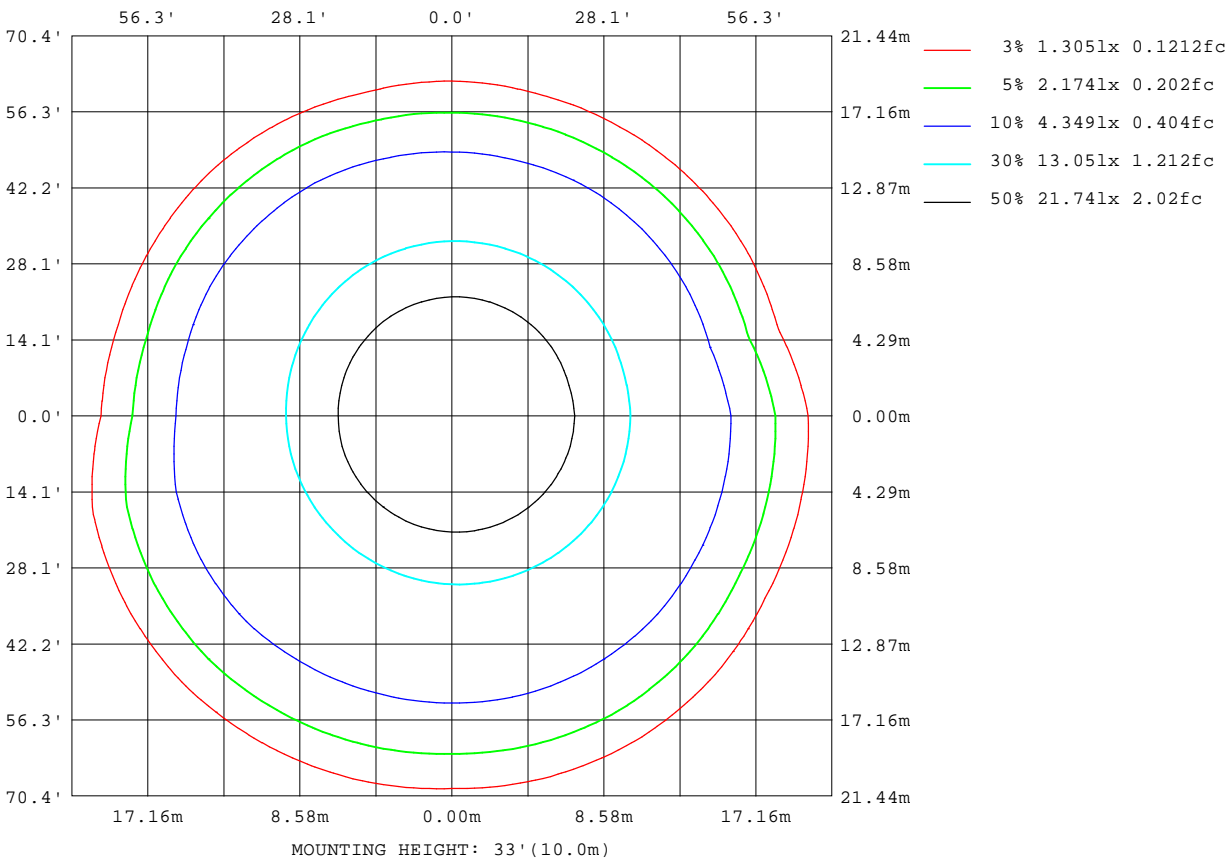
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:05 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:224.9V I:0.3728A P:77.33W PF:0.9220 Freq:59.98Hz Lamp Flux:12786.7x1 lm		
NAME: RK-HBL80W-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: 05 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:224.9V I:0.3728A P:77.33W PF:0.9220 Freq:59.98Hz Lamp Flux:12786.7x1 lm		
NAME: RK-HBL80W-02-G20-120D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	Shielding Angle:

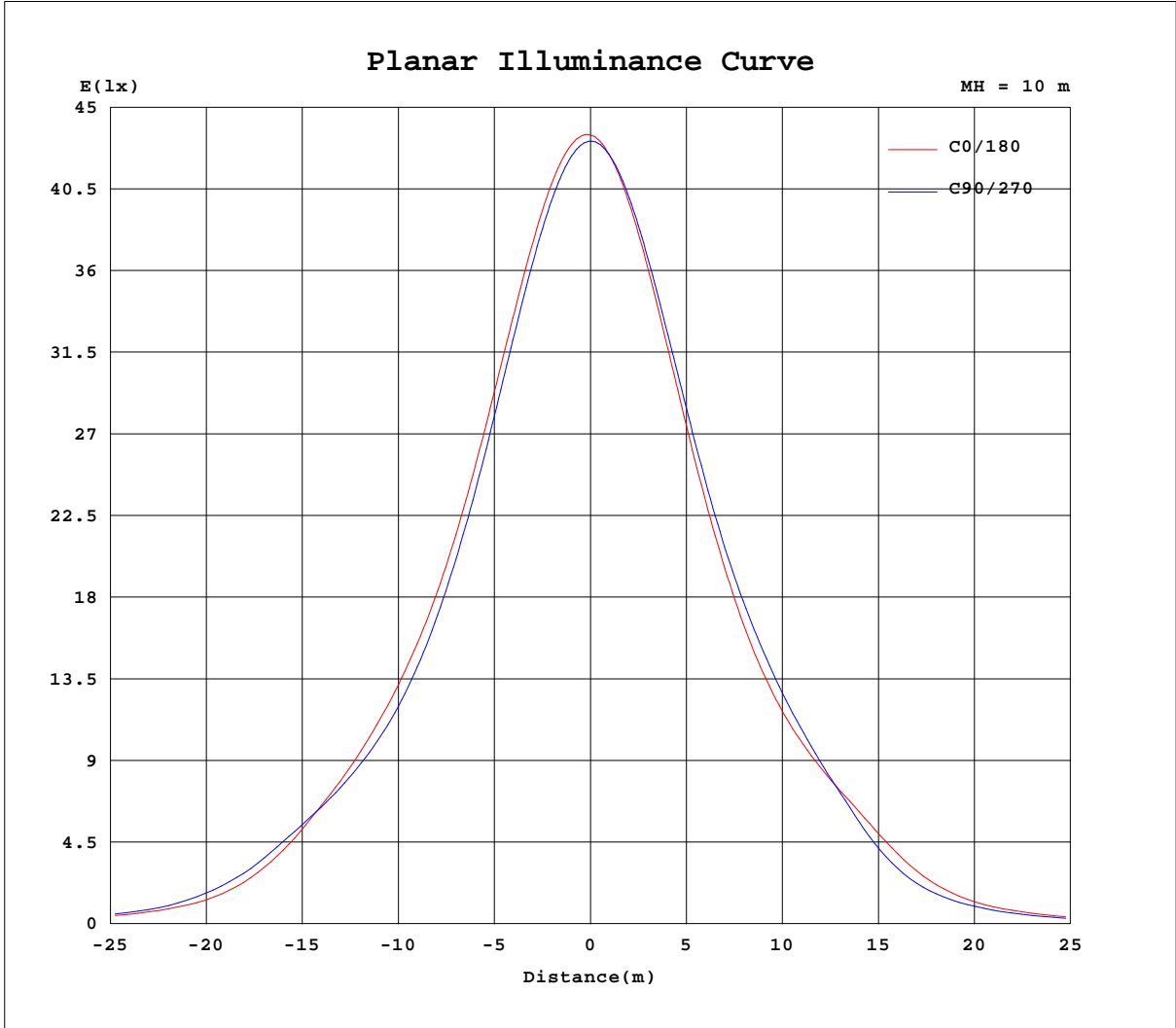
AvgL	cd/m2
L_0~180(65)av	67160
L_0~180(75)av	24382
L_0~180(85)av	2029
L_90~270(65)av	69148
L_90~270(75)av	25542
L_90~270(85)av	2303
L_45(65)av	71636
L_45(75)av	24316
L_45(85)av	2248

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:05 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: 05 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:

