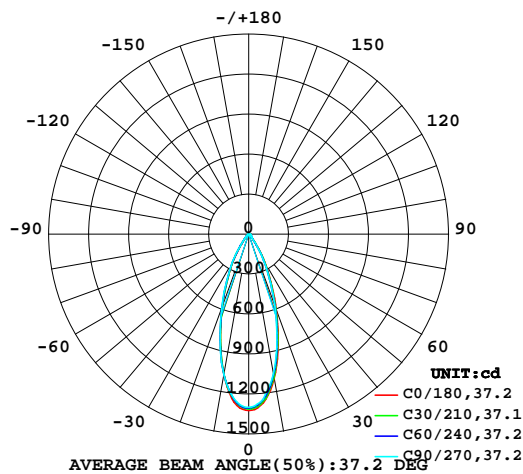


LUMINAIRE PHOTOMETRIC TEST REPORT

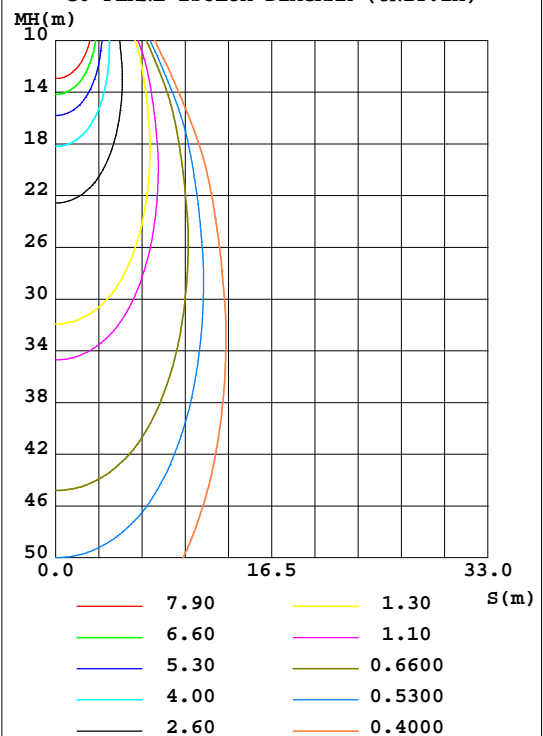
NAME:	TYPE:CRI90 3000K	WEIGHT:
SPEC.:RAD25R-9-30K	DIM.:	SERIAL No.:1
MFR.: RAYHIL	SUR.: Φ 30	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 76.36 lm/W			
MODEL		I _{max} (cd)	1324	S/MH(C0/180)	0.59
NOMINAL POWER(W)	9	LOR(%)	100.0	S/MH(C90/270)	0.61
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	651.32	η UP,DN(C0-180)	0.5,48.6
NOMINAL FLUX(lm)	651.317	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.5,50.4
LAMPS INSIDE	1	η up(%)	1.0	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	120	η down(%)	99.0	CIBSE SHR MAX	0.65

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2021-11-06

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.620m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	1103	1085	1065	1049	1073	1073	1075	1074	0- 10	113.3	113.3	17.4,17.4
20	609.6	591.0	576.2	566.3	582.0	583.8	594.3	601.0	10- 20	227.8	341.1	52.4,52.4
30	243.6	230.6	225.1	222.9	239.7	243.7	250.3	250.6	20- 30	177.5	518.5	79.6,79.6
40	53.09	47.10	45.64	45.21	49.92	54.26	58.05	57.20	30- 40	75.78	594.3	91.2,91.2
50	19.81	18.12	17.42	17.25	18.78	19.71	20.53	20.58	40- 50	24.35	618.7	95,95
60	9.634	9.456	9.262	9.202	9.500	9.475	9.469	9.455	50- 60	11.05	629.7	96.7,96.7
70	7.234	7.022	6.840	6.679	6.887	6.912	6.965	7.017	60- 70	8.161	637.9	97.9,97.9
80	3.187	3.088	3.003	2.951	3.137	3.124	3.114	3.159	70- 80	5.246	643.1	98.7,98.7
90	0.0698	0.0547	0.0546	0.0556	0.1166	0.1329	0.1060	0.1351	80- 90	1.474	644.6	99,99
100	0.0828	0.0743	0.0885	0.0790	0.1618	0.1308	0.1241	0.1319	90-100	0.1011	644.7	99,99
110	0.1729	0.1767	0.1882	0.1786	0.2937	0.2455	0.2405	0.2417	100-110	0.1569	644.9	99,99
120	0.4678	0.4655	0.4856	0.4786	0.6382	0.5709	0.5582	0.5484	110-120	0.3373	645.2	99.1,99.1
130	1.107	1.079	1.096	1.102	1.427	1.245	1.220	1.196	120-130	0.7201	645.9	99.2,99.2
140	2.151	2.005	2.019	2.016	2.241	2.181	2.158	2.125	130-140	1.241	647.1	99.4,99.4
150	2.962	2.887	2.901	2.852	3.022	2.960	2.966	2.932	140-150	1.582	648.7	99.6,99.6
160	3.288	3.247	3.258	3.140	3.209	3.166	3.204	3.203	150-160	1.440	650.2	99.8,99.8
170	3.029	3.001	2.942	2.865	2.880	2.829	2.875	2.884	160-170	0.8776	651.0	100,100
180	2.790	2.800	2.720	2.752	2.791	2.801	2.720	2.754	170-180	0.2687	651.3	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 608.78 lm

%lum = 93.5%
%lamp = 93.5%

Conical surface Flux(120deg): 629.71 lm

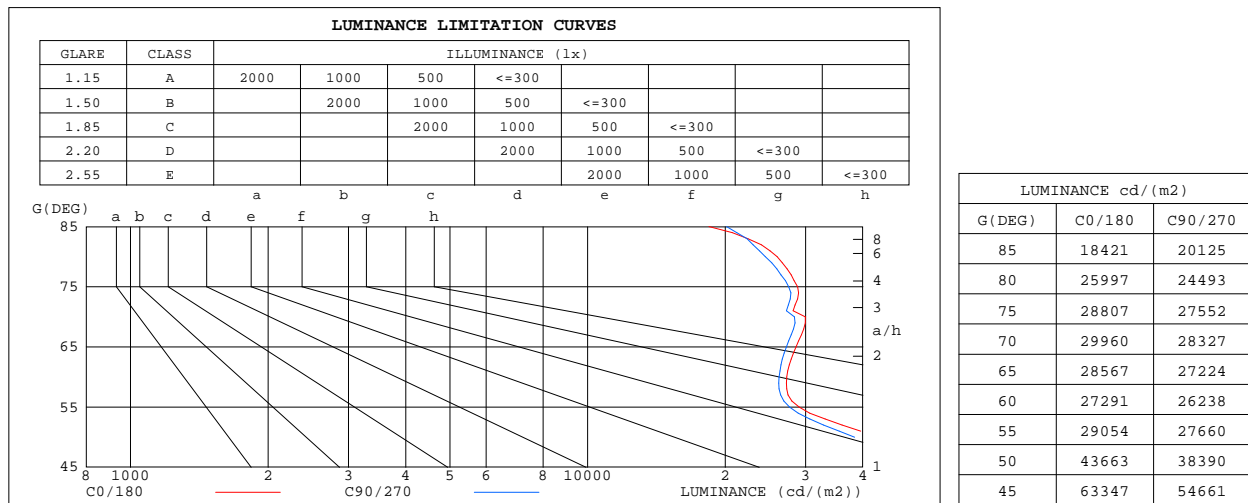
%lum = 96.7%
%lamp = 96.7%

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2021-11-06

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.620m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

NAME:	TYPE:CRI90 3000K	WEIGHT:
SPEC.:RAD25R-9-30K	DIM.:	SERIAL No.:1
MFR.: RAYHIL	SUR.:Φ30	Shielding Angle:



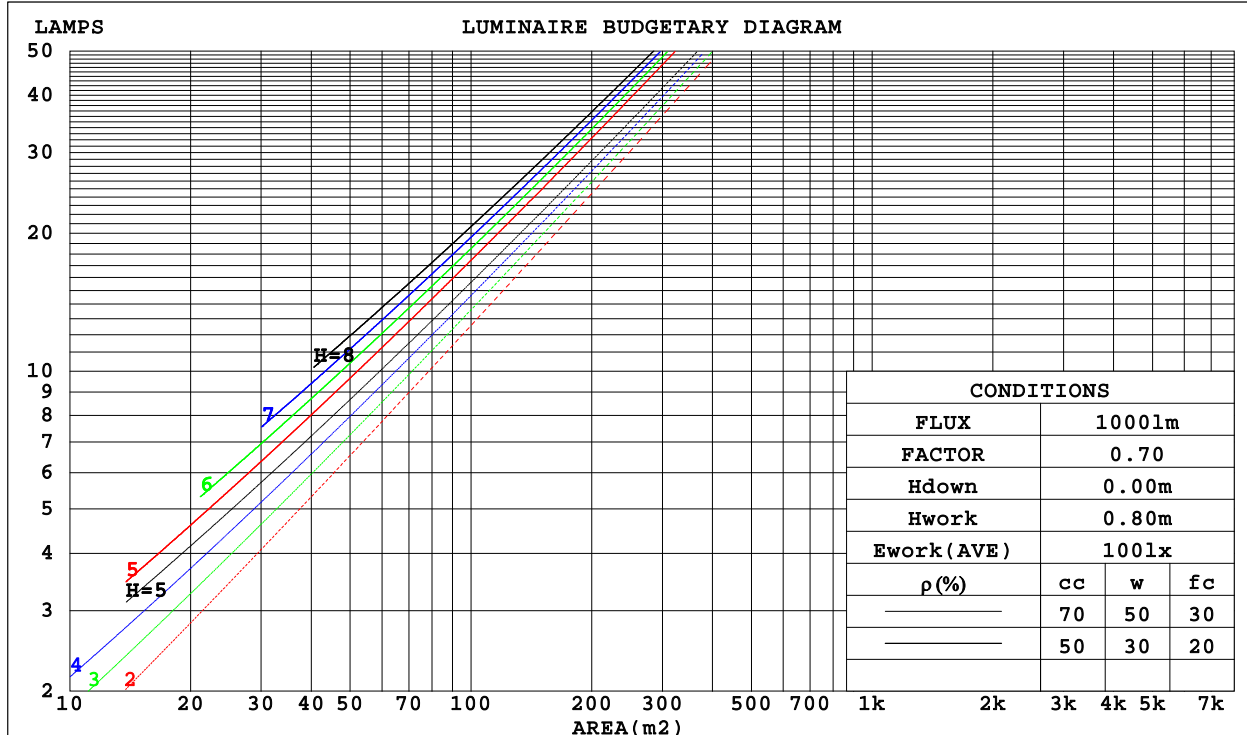
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2021-11-06

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity: 65.0%
Test Distance: 5.620m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

NAME:	TYPE:CRI90 3000K	WEIGHT:
SPEC.:RAD25R-9-30K	DIM.:	SERIAL No.:1
MFR.: RAYHIL	SUR.:#30	Shielding Angle:

ρ_{cc}	80%			70%			50%			30%			10%			0	
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
ρ_{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	1.01	1.01	1.01	.99	
1.0	1.11	1.08	1.06	1.08	1.06	1.04	1.04	1.03	1.01	1.00	.99	.98	.97	.96	.95	.93	
2.0	1.04	.90	.96	1.02	.98	.95	.98	.95	.93	.95	.93	.91	.92	.91	.89	.87	
3.0	.97	.93	.89	.96	.91	.88	.93	.89	.86	.90	.87	.85	.88	.86	.84	.82	
4.0	.92	.86	.82	.90	.86	.82	.88	.84	.81	.86	.83	.80	.84	.81	.79	.77	
5.0	.87	.81	.77	.86	.81	.77	.84	.79	.76	.82	.78	.75	.80	.77	.75	.73	
6.0	.82	.77	.73	.81	.76	.72	.80	.75	.72	.78	.74	.71	.77	.73	.71	.69	
7.0	.78	.72	.69	.77	.72	.68	.76	.71	.68	.75	.71	.68	.74	.70	.67	.66	
8.0	.74	.69	.65	.74	.69	.65	.73	.68	.65	.72	.67	.64	.71	.67	.64	.63	
9.0	.71	.66	.62	.70	.65	.62	.69	.65	.62	.68	.64	.61	.68	.64	.61	.60	
10.0	.68	.63	.59	.67	.62	.59	.67	.62	.59	.66	.62	.59	.65	.61	.58	.57	



C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2021-11-06

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:5.620m [K=1.0000]
 Remarks:

WEC AND CCEC

NAME:	TYPE:CRI90 3000K	WEIGHT:
SPEC.:RAD25R-9-30K	DIM.:	SERIAL No.:1
MFR.: RAYHIL	SUR.:#30	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	.174 .099 .031	.167 .095 .030	.154 .088 .028	.142 .082 .026	.130 .076 .024	
2.0	.164 .090 .028	.158 .087 .027	.147 .082 .025	.137 .077 .024	.127 .072 .023	
3.0	.154 .082 .025	.149 .080 .024	.140 .076 .023	.131 .072 .022	.123 .068 .021	
4.0	.145 .076 .022	.141 .074 .022	.133 .070 .021	.125 .067 .020	.118 .064 .020	
5.0	.137 .070 .020	.134 .069 .020	.127 .066 .019	.120 .063 .019	.114 .061 .018	
6.0	.130 .065 .019	.127 .064 .018	.121 .062 .018	.115 .060 .018	.110 .058 .017	
7.0	.124 .061 .017	.121 .060 .017	.116 .058 .017	.110 .057 .016	.106 .055 .016	
8.0	.118 .058 .016	.116 .057 .016	.111 .055 .016	.106 .054 .016	.102 .052 .015	
9.0	.113 .055 .015	.111 .054 .015	.106 .053 .015	.102 .051 .015	.098 .050 .014	
10.0	.108 .052 .014	.106 .051 .014	.102 .050 .014	.098 .049 .014	.095 .048 .014	

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	.198 .198 .198	.170 .170 .170	.116 .116 .116	.066 .066 .066	.021 .021 .021	
1.0	.179 .165 .153	.153 .142 .132	.105 .098 .091	.060 .056 .053	.019 .018 .017	
2.0	.163 .141 .121	.140 .121 .105	.096 .084 .073	.055 .049 .043	.018 .016 .014	
3.0	.150 .122 .099	.129 .105 .086	.088 .073 .060	.051 .043 .035	.016 .014 .012	
4.0	.139 .107 .082	.120 .092 .071	.082 .064 .050	.048 .038 .030	.015 .012 .010	
5.0	.130 .095 .069	.112 .082 .060	.077 .057 .042	.045 .034 .025	.014 .011 .008	
6.0	.122 .086 .059	.105 .074 .052	.072 .052 .037	.042 .030 .022	.014 .010 .007	
7.0	.115 .078 .052	.099 .067 .045	.069 .047 .032	.040 .028 .019	.013 .009 .006	
8.0	.109 .071 .045	.094 .062 .040	.065 .044 .028	.038 .026 .017	.012 .008 .006	
9.0	.104 .066 .041	.090 .057 .035	.062 .040 .025	.036 .024 .015	.012 .008 .005	
10.0	.099 .062 .037	.086 .054 .032	.059 .038 .023	.035 .022 .014	.011 .007 .004	

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2021-11-06

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.620m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

NAME:					TYPE:CRI90 3000K			WEIGHT:			
SPEC.:RAD25R-9-30K					DIM.:			SERIAL No.:1			
MFR.: RAYHIL					SUR.:#30			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	2H	22.7	23.5	22.9	23.7	23.9	22.1	23.0	22.4	23.2	23.4
	3H	23.2	24.0	23.5	24.2	24.4	22.7	23.5	23.0	23.7	23.9
	4H	23.5	24.2	23.8	24.5	24.7	23.0	23.8	23.3	24.0	24.3
	6H	23.7	24.4	24.0	24.7	25.0	23.3	24.0	23.6	24.2	24.5
	8H	23.8	24.5	24.1	24.8	25.0	23.3	24.0	23.7	24.3	24.6
	12H	23.8	24.5	24.2	24.8	25.1	23.4	24.0	23.7	24.3	24.6
4H	2H	22.7	23.5	23.0	23.7	23.9	22.2	23.0	22.5	23.2	23.5
	3H	23.4	24.1	23.8	24.4	24.7	23.0	23.7	23.3	24.0	24.3
	4H	23.9	24.5	24.2	24.8	25.1	23.5	24.1	23.8	24.4	24.7
	6H	24.2	24.8	24.6	25.1	25.5	23.9	24.4	24.2	24.7	25.1
	8H	24.4	24.9	24.8	25.2	25.6	24.0	24.5	24.4	24.8	25.2
	12H	24.4	24.9	24.8	25.3	25.7	24.0	24.5	24.5	24.9	25.3
8H	4H	24.0	24.5	24.4	24.9	25.2	23.6	24.1	24.0	24.5	24.9
	6H	24.5	24.9	24.9	25.3	25.7	24.1	24.5	24.6	24.9	25.4
	8H	24.7	25.0	25.1	25.5	25.9	24.3	24.7	24.8	25.1	25.6
	12H	24.8	25.1	25.2	25.5	26.0	24.4	24.7	24.9	25.2	25.7
12H	4H	24.0	24.4	24.4	24.8	25.2	23.6	24.1	24.0	24.5	24.9
	6H	24.5	24.9	25.0	25.3	25.7	24.1	24.5	24.6	24.9	25.4
	8H	24.7	25.0	25.2	25.5	26.0	24.4	24.7	24.8	25.1	25.6
Variations with the observer position at spacings:											
S = 1.0H	+ 1.1 / - 1.0					+ 1.0 / - 0.9					
1.5H	+ 2.2 / - 1.1					+ 2.0 / - 0.9					
2.0H	+ 1.4 / - 0.6					+ 1.1 / - 0.5					

CIE Pub.117, 651.3 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -1.5)

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2021-11-06

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.620m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

NAME:	TYPE:CRI90 3000K	WEIGHT:
SPEC.:RAD25R-9-30K	DIM.:	SERIAL No.:1
MFR.: RAYHIL	SUR.: Φ 30	Shielding Angle:

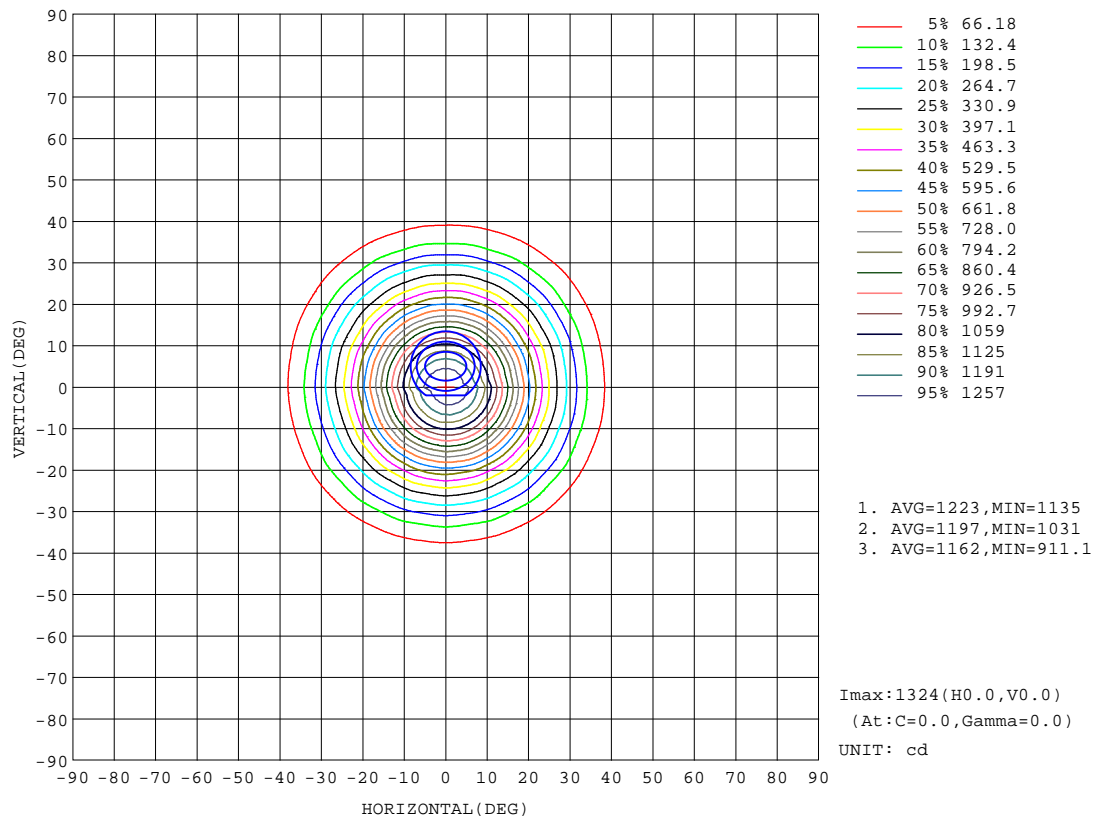
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	86	80	76	86	80	76	85	79	76	72
0.80	94	88	84	93	87	84	92	87	83	79
1.00	98	92	88	97	92	88	95	92	88	83
1.25	102	97	93	101	96	93	99	95	92	87
1.50	105	100	96	104	99	96	101	97	95	90
2.00	108	103	100	106	102	99	103	100	97	92
2.50	109	105	102	108	104	101	104	102	99	93
3.00	111	107	105	109	106	103	106	103	101	94
4.00	113	110	108	111	109	106	107	105	104	96
5.00	114	112	110	112	110	108	108	107	105	97
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004				Suspended				SHRNOM = 1.25		

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2021-11-06

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.620m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

NAME:	TYPE:CRI90 3000K	WEIGHT:
SPEC.:RAD25R-9-30K	DIM.:	SERIAL No.:1
MFR.: RAYHIL	SUR.:Φ30	Shielding Angle:

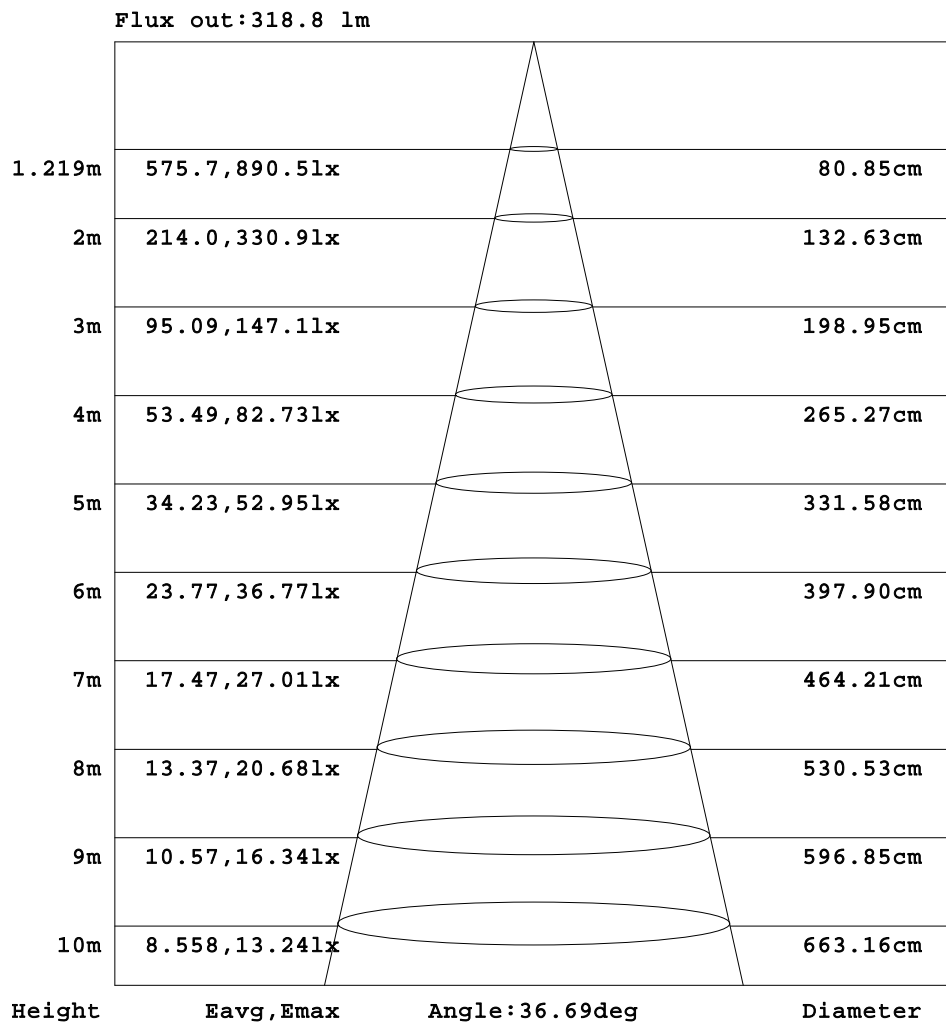


C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2021-11-06

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:5.620m [K=1.0000]
 Remarks:

AAI Figure

NAME:	TYPE:CRI90 3000K	WEIGHT:
SPEC.:RAD25R-9-30K	DIM.:	SERIAL No.:1
MFR.: RAYHIL	SUR.:Φ30	Shielding Angle:



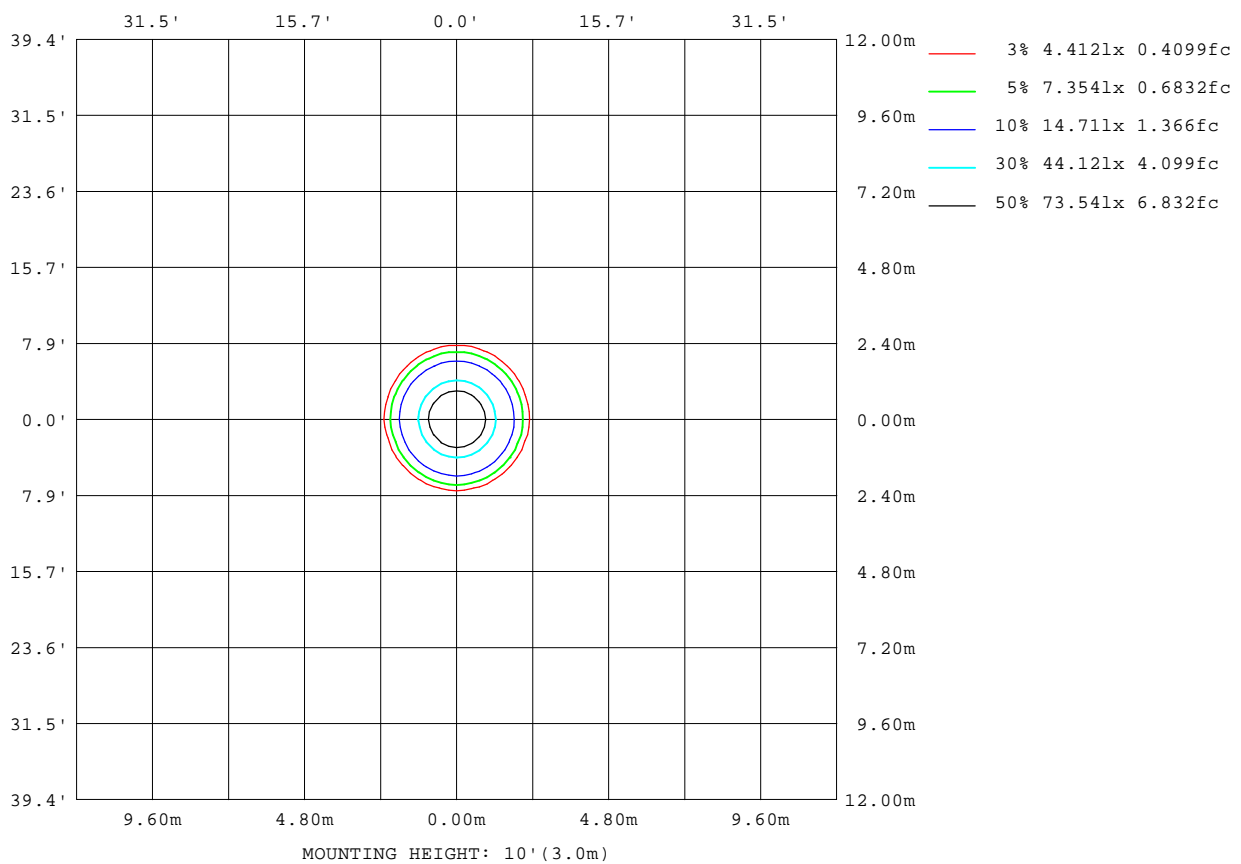
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2021-11-06

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.620m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

NAME:	TYPE:CRI90 3000K	WEIGHT:
SPEC.:RAD25R-9-30K	DIM.:	SERIAL No.:1
MFR.: RAYHIL	SUR.:Φ30	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2021-11-06

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:5.620m [K=1.0000]
 Remarks:

LED Avg.L Report

NAME:	TYPE:CRI90 3000K	WEIGHT:
SPEC.:RAD25R-9-30K	DIM.:	SERIAL No.:1
MFR.: RAYHIL	SUR.: Φ 30	Shielding Angle:

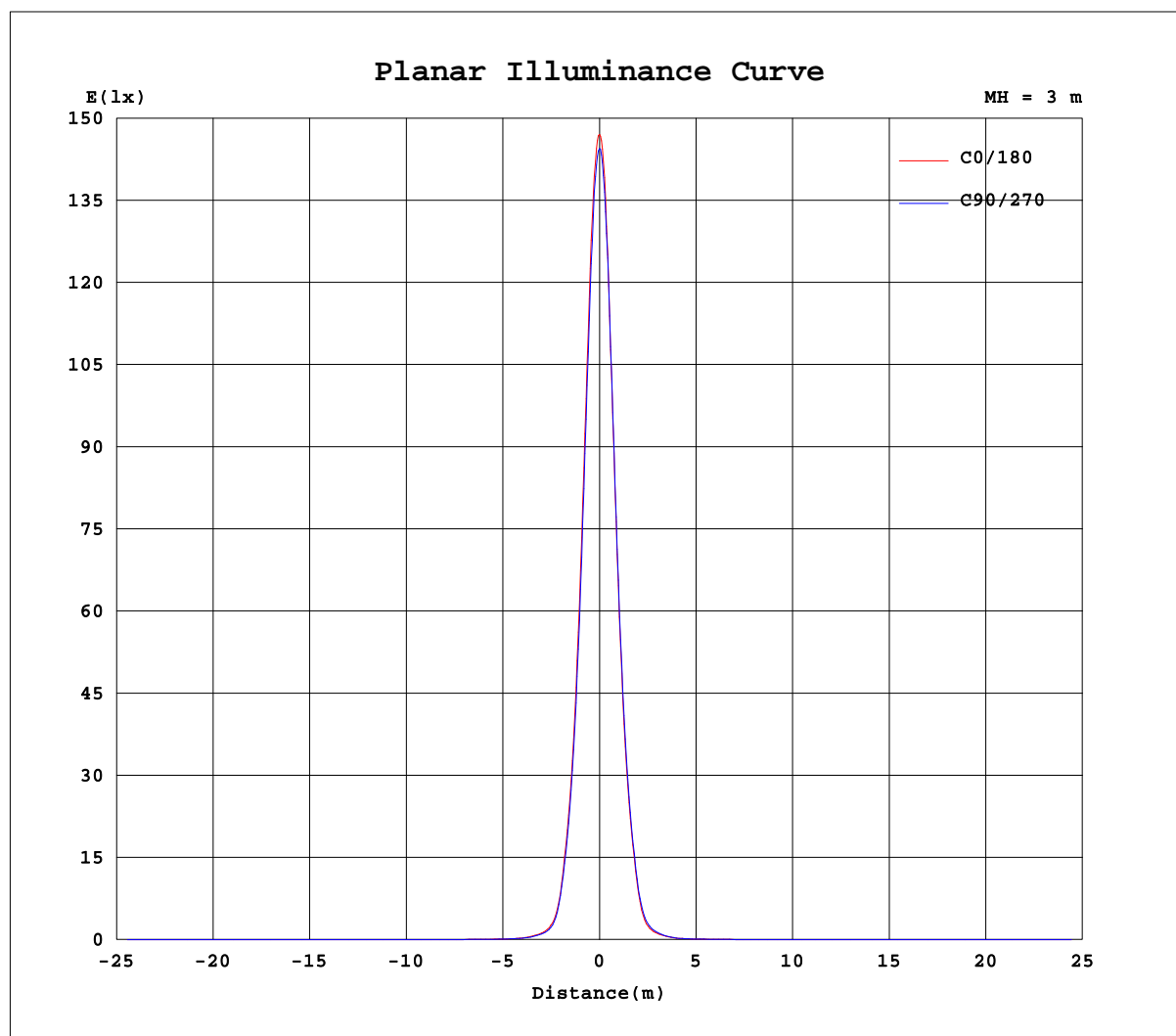
AvgL	cd/m2
L_0~180(65)av	28191
L_0~180(75)av	28409
L_0~180(85)av	18424
L_90~270(65)av	27595
L_90~270(75)av	27554
L_90~270(85)av	21291
L_45(65)av	27668
L_45(75)av	27655
L_45(85)av	21413

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2021-11-06

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.620m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2021-11-06

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity: 65.0%
Test Distance: 5.620m [K=1.0000]
Remarks:

