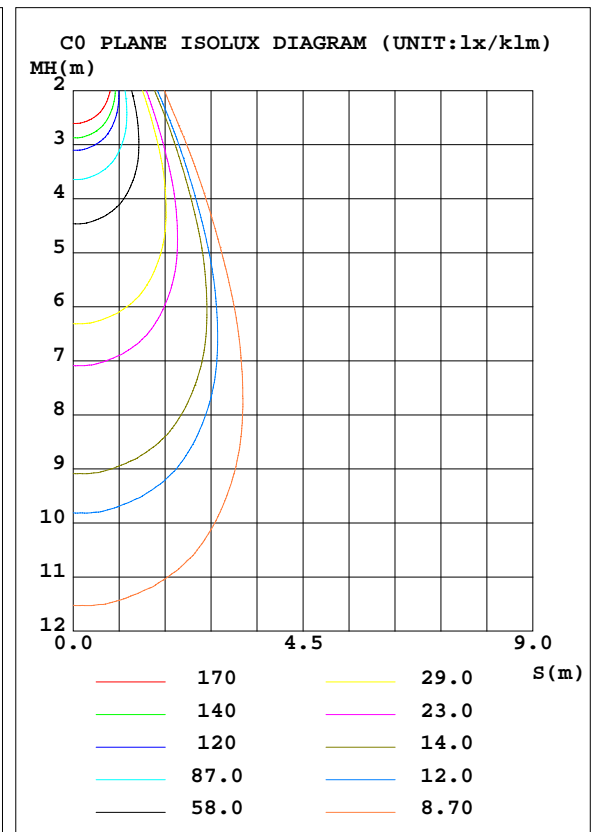
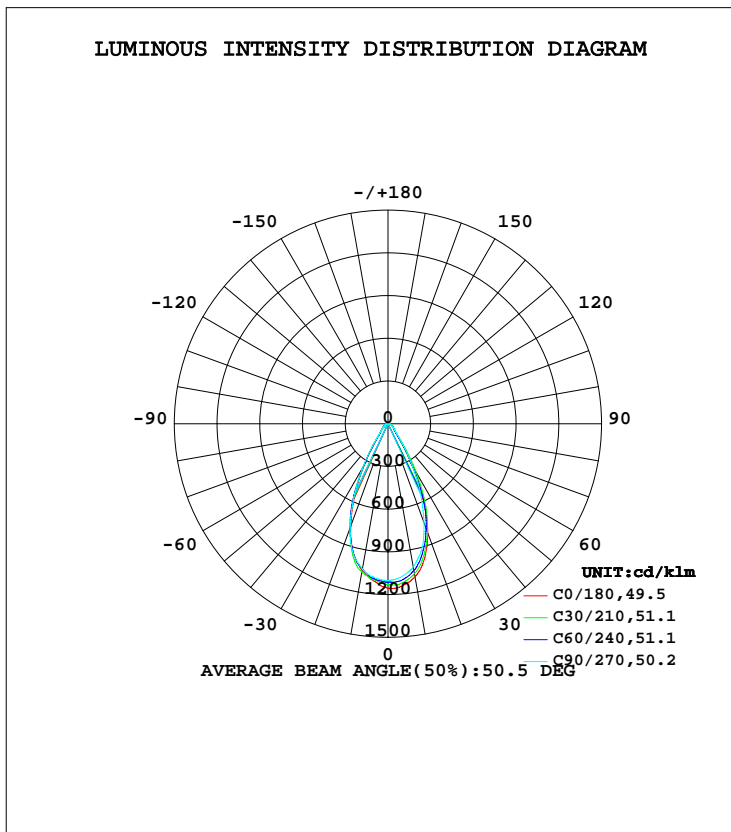


**LUMINAIRE PHOTOMETRIC TEST REPORT**

NAME: PAR20-9W-6000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL		I <sub>max</sub> (cd/klm)	1157	S/MH(C0/180)	0.76
NOMINAL POWER(W)	9	LOR(%)	84.9	S/MH(C90/270)	0.77
RATED VOLTAGE(V)	220.0	TOTAL FLUX(lm/klm)	848.98	η UP, DN(C0-180)	0.0,43.8
NOMINAL FLUX(lm)	1000	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0,41.1
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	230.0	η down(%)	84.9	CIBSE SHR MAX	0.75



C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2021-12-10

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-i300\_V1 SYSTEM V2.0.406.11  
 Humidity:65.0%  
 Test Distance:3.161m [K=1.0000]  
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

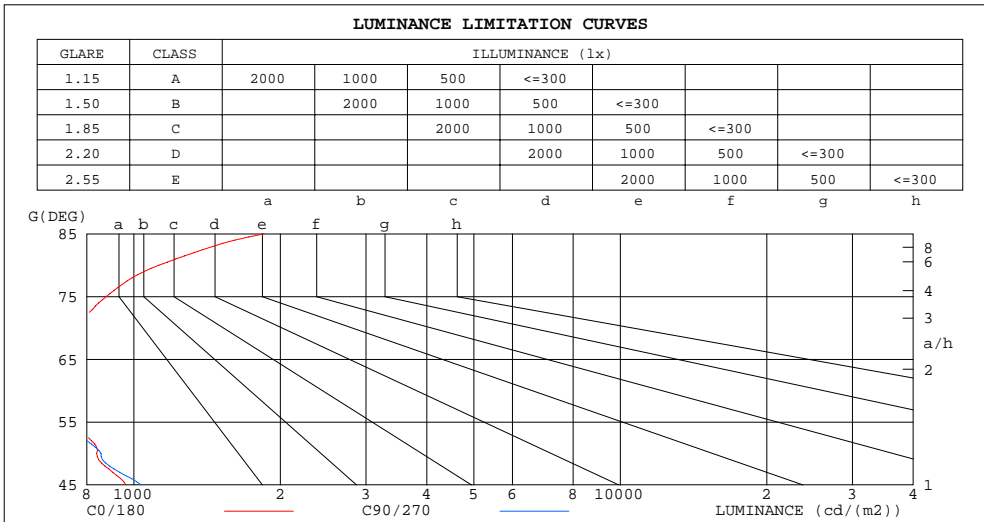
$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	$\Phi$ lum,lamp
10	1091	1058	1021	979.7	1044	1047	1037	985.5	0- 10	102.0	102.0	12,10.2
20	817.0	797.1	739.6	744.6	764.1	778.3	777.4	660.1	10- 20	254.1	356.1	41.9,35.6
30	344.4	372.5	344.6	325.2	335.5	339.2	350.0	208.0	20- 30	244.1	600.2	70.7,60
40	99.49	98.70	108.4	78.93	98.53	90.39	99.31	65.20	30- 40	109.1	709.2	83.5,70.9
50	53.88	54.48	55.05	47.55	55.90	53.88	53.58	43.88	40- 50	50.10	759.3	89.4,75.9
60	36.50	34.22	31.94	31.28	36.41	33.62	30.83	29.16	50- 60	36.91	796.2	93.8,79.6
70	25.94	21.95	18.77	20.30	25.46	21.64	18.48	19.33	60- 70	26.66	822.9	96.9,82.3
80	19.55	12.42	9.408	10.23	19.23	13.27	9.041	11.22	70- 80	17.79	840.7	99,84.1
90	11.87	0.1543	0.1823	0.2225	10.86	1.072	0.3019	0.1543	80- 90	8.294	849.0	100,84.9
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/klm									UNIT:lm/klm		

C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2021-12-10

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-i300\_V1 SYSTEM V2.0.406.11  
 Humidity:65.0%  
 Test Distance:3.161m [K=1.0000]  
 Remarks:

**LUMINANCE LIMITATION CURVES**

NAME: PAR20-9W-6000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	1854	651
80	1126	542
75	878	540
70	758	549
65	732	605
60	730	639
55	775	735
50	838	856
45	963	1035

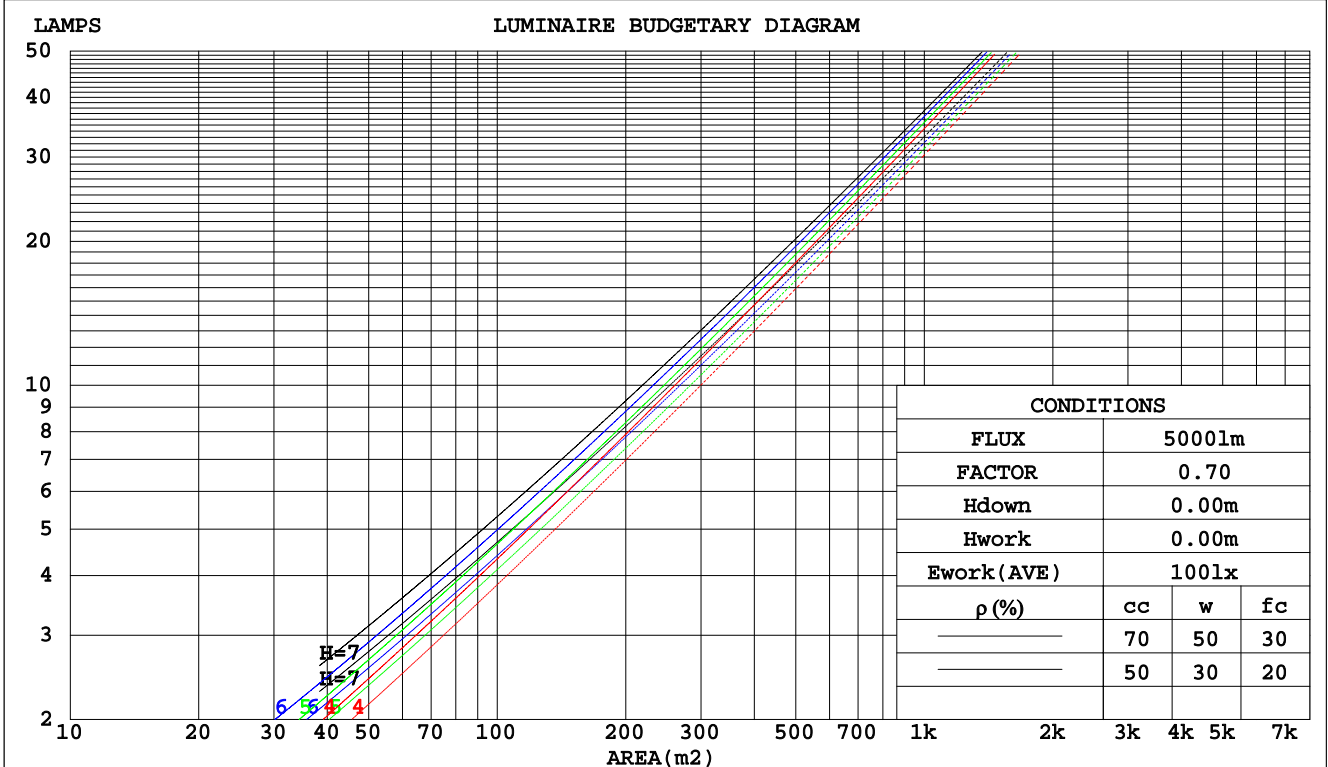
C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DAMIN  
 Test Date: 2021-12-10

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System: EVERFINE GO-i300\_V1 SYSTEM V2.0.406.11  
 Humidity: 65.0%  
 Test Distance: 3.161m [K=1.0000]  
 Remarks:

**CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM**

NAME: PAR20-9W-6000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pw																
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
0.0	1.01	1.01	1.01	.99	.99	.99	.94	.94	.94	.90	.90	.90	.87	.87	.87	.85
1.0	.93	.90	.88	.91	.89	.87	.87	.86	.84	.84	.83	.82	.81	.80	.79	.78
2.0	.86	.82	.79	.84	.81	.78	.81	.78	.76	.79	.76	.74	.76	.74	.73	.71
3.0	.79	.75	.71	.78	.74	.70	.76	.72	.69	.74	.71	.68	.72	.69	.67	.66
4.0	.74	.69	.65	.73	.68	.65	.71	.67	.64	.69	.66	.63	.68	.65	.62	.61
5.0	.69	.64	.60	.68	.64	.60	.67	.63	.59	.65	.62	.59	.64	.61	.58	.57
6.0	.65	.60	.56	.64	.59	.56	.63	.59	.55	.62	.58	.55	.61	.57	.55	.53
7.0	.61	.56	.52	.61	.56	.52	.60	.55	.52	.59	.55	.52	.58	.54	.51	.50
8.0	.58	.53	.49	.57	.52	.49	.56	.52	.49	.56	.52	.49	.55	.51	.48	.47
9.0	.55	.50	.46	.54	.50	.46	.54	.49	.46	.53	.49	.46	.52	.48	.46	.45
10.0	.52	.47	.44	.52	.47	.44	.51	.47	.44	.50	.46	.43	.50	.46	.43	.42



C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DAMIN  
 Test Date: 2021-12-10

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-i300\_V1 SYSTEM V2.0.406.11  
 Humidity: 65.0%  
 Test Distance: 3.161m [K=1.0000]  
 Remarks:

WEC AND CCEC

NAME: PAR20-9W-6000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	Shielding Angle:

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.175	.099	.031	.169	.096	.031	.158	.091	.029	.148	.085	.027	.139	.081	.026	
2.0	.163	.089	.027	.158	.087	.027	.149	.083	.026	.141	.079	.025	.133	.075	.024	
3.0	.152	.081	.024	.148	.079	.024	.140	.076	.023	.133	.073	.022	.126	.070	.022	
4.0	.142	.074	.022	.139	.073	.021	.132	.070	.021	.126	.068	.020	.120	.065	.020	
5.0	.134	.068	.020	.131	.067	.020	.125	.065	.019	.119	.063	.019	.114	.061	.018	
6.0	.126	.063	.018	.123	.062	.018	.118	.061	.018	.113	.059	.017	.109	.057	.017	
7.0	.119	.059	.017	.117	.058	.017	.112	.057	.016	.108	.055	.016	.104	.054	.016	
8.0	.113	.055	.016	.111	.055	.015	.107	.053	.015	.103	.052	.015	.100	.051	.015	
9.0	.108	.052	.015	.106	.052	.014	.102	.051	.014	.099	.050	.014	.096	.049	.014	
10.0	.103	.049	.014	.101	.049	.014	.098	.048	.013	.095	.047	.013	.092	.046	.013	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.162	.162	.162	.138	.138	.138	.094	.094	.094	.054	.054	.054	.017	.017	.017	
1.0	.147	.133	.121	.126	.114	.104	.086	.079	.072	.050	.046	.042	.016	.015	.014	
2.0	.135	.112	.093	.116	.097	.081	.079	.067	.056	.046	.039	.033	.015	.013	.011	
3.0	.125	.097	.074	.107	.083	.064	.073	.058	.045	.042	.034	.027	.014	.011	.009	
4.0	.116	.084	.060	.100	.073	.052	.069	.051	.037	.040	.030	.022	.013	.010	.007	
5.0	.109	.074	.049	.093	.064	.043	.064	.045	.030	.037	.026	.018	.012	.009	.006	
6.0	.102	.067	.041	.088	.058	.036	.061	.040	.025	.035	.024	.015	.011	.008	.005	
7.0	.096	.060	.035	.083	.052	.030	.057	.037	.022	.033	.022	.013	.011	.007	.004	
8.0	.091	.055	.030	.079	.048	.026	.054	.033	.019	.032	.020	.011	.010	.006	.004	
9.0	.087	.050	.026	.075	.044	.023	.052	.031	.016	.030	.018	.010	.010	.006	.003	
10.0	.082	.047	.023	.071	.041	.020	.049	.029	.014	.029	.017	.008	.009	.006	.003	

C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2021-12-10

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-i300\_V1 SYSTEM V2.0.406.11  
 Humidity:65.0%  
 Test Distance:3.161m [K=1.0000]  
 Remarks:

UGR(Unified Glare Rating) Table

NAME: PAR20-9W-6000K		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	9.1	10.1	9.3	10.3	10.4	8.5	9.5	8.7	9.7	9.9	
3H	10.3	11.2	10.6	11.4	11.7	9.4	10.3	9.7	10.5	10.8	
4H	11.1	12.0	11.4	12.2	12.4	9.8	10.7	10.1	11.0	11.2	
6H	12.0	12.8	12.3	13.1	13.3	10.2	11.0	10.5	11.3	11.5	
8H	12.5	13.3	12.8	13.6	13.9	10.4	11.2	10.7	11.5	11.7	
12H	13.2	13.9	13.5	14.2	14.5	10.5	11.3	10.9	11.6	11.9	
4H 2H	9.4	10.3	9.7	10.5	10.7	8.9	9.8	9.2	10.0	10.3	
3H	10.9	11.7	11.2	11.9	12.2	10.0	10.8	10.4	11.1	11.4	
4H	11.9	12.6	12.2	12.9	13.2	10.6	11.3	11.0	11.6	11.9	
6H	13.0	13.6	13.3	13.9	14.3	11.1	11.7	11.5	12.1	12.4	
8H	13.6	14.2	14.0	14.6	14.9	11.4	12.0	11.8	12.3	12.7	
12H	14.4	14.9	14.8	15.3	15.7	11.6	12.1	12.0	12.5	12.9	
8H 4H	12.1	12.7	12.5	13.0	13.4	11.0	11.5	11.3	11.9	12.3	
6H	13.4	13.9	13.8	14.3	14.7	11.6	12.1	12.1	12.5	12.9	
8H	14.2	14.6	14.6	15.0	15.5	12.0	12.4	12.4	12.8	13.3	
12H	15.1	15.5	15.6	15.9	16.4	12.3	12.7	12.8	13.1	13.6	
12H 4H	12.1	12.6	12.5	13.0	13.4	11.0	11.6	11.4	11.9	12.3	
6H	13.4	13.9	13.9	14.3	14.7	11.8	12.2	12.2	12.6	13.1	
8H	14.3	14.6	14.7	15.1	15.6	12.2	12.6	12.7	13.0	13.5	
Variations with the observer position at spacings:											
S = 1.0H	+ 0.2 / - 0.3					+ 0.5 / - 0.4					
1.5H	+ 0.3 / - 0.2					+ 0.9 / - 0.3					
2.0H	+ 0.1 / - 0.2					+ 0.4 / - 0.4					

CIE Pub.117, 1000 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 0.0)

C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2021-12-10

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-i300\_V1 SYSTEM V2.0.406.11  
 Humidity:65.0%  
 Test Distance:3.161m [K=1.0000]  
 Remarks:

UTILIZATION FACTORS TABLE

NAME: PAR20-9W-6000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	Shielding Angle:

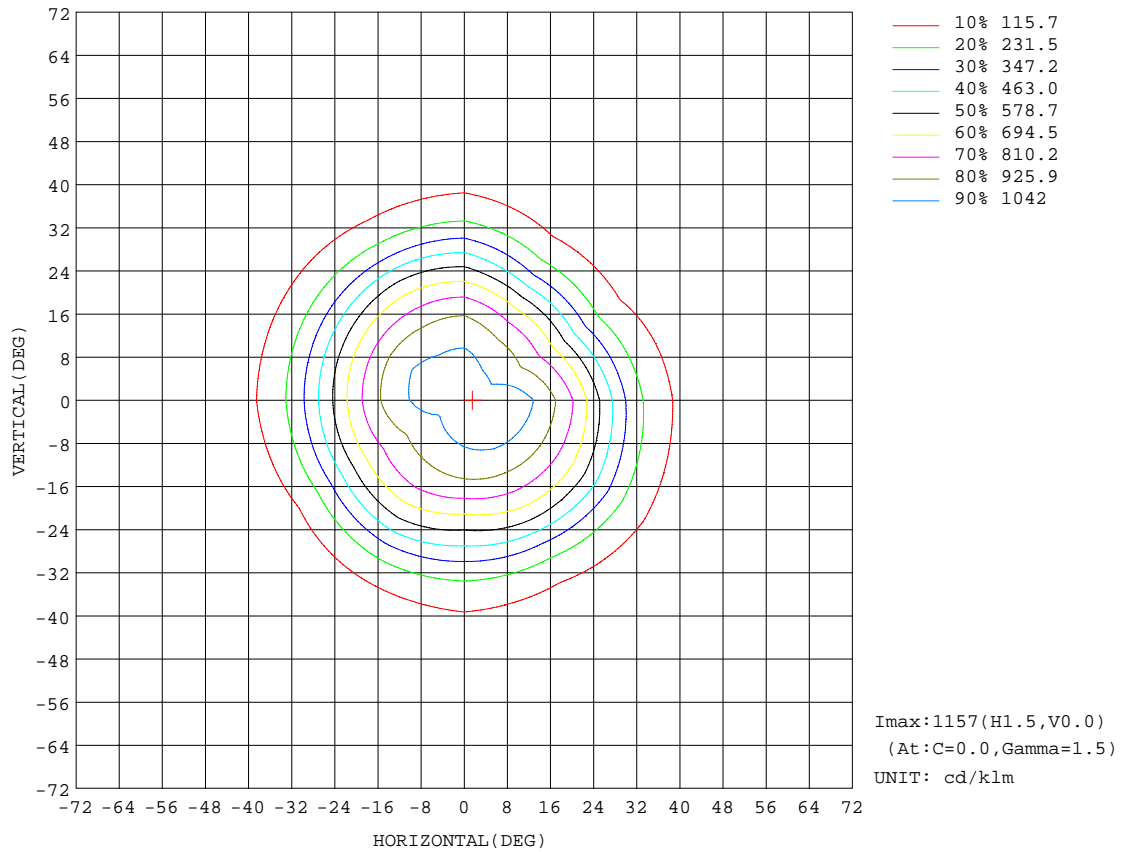
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	69	63	59	69	63	59	68	62	59	55
0.80	76	70	66	75	70	66	74	69	66	62
1.00	80	74	71	79	74	70	78	74	70	66
1.25	84	79	75	83	78	75	81	77	74	70
1.50	87	82	78	85	81	78	83	80	77	72
2.00	90	85	82	88	84	81	86	83	80	75
2.50	91	87	84	90	86	83	87	84	82	76
3.00	93	89	87	91	88	86	88	86	84	78
4.00	95	92	90	93	91	89	90	88	86	80
5.00	96	94	92	95	92	91	91	89	88	81
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2021-12-10

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-i300\_V1 SYSTEM V2.0.406.11  
 Humidity:65.0%  
 Test Distance:3.161m [K=1.0000]  
 Remarks:

**ISOCANDELA DIAGRAM**

NAME: PAR20-9W-6000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	Shielding Angle:



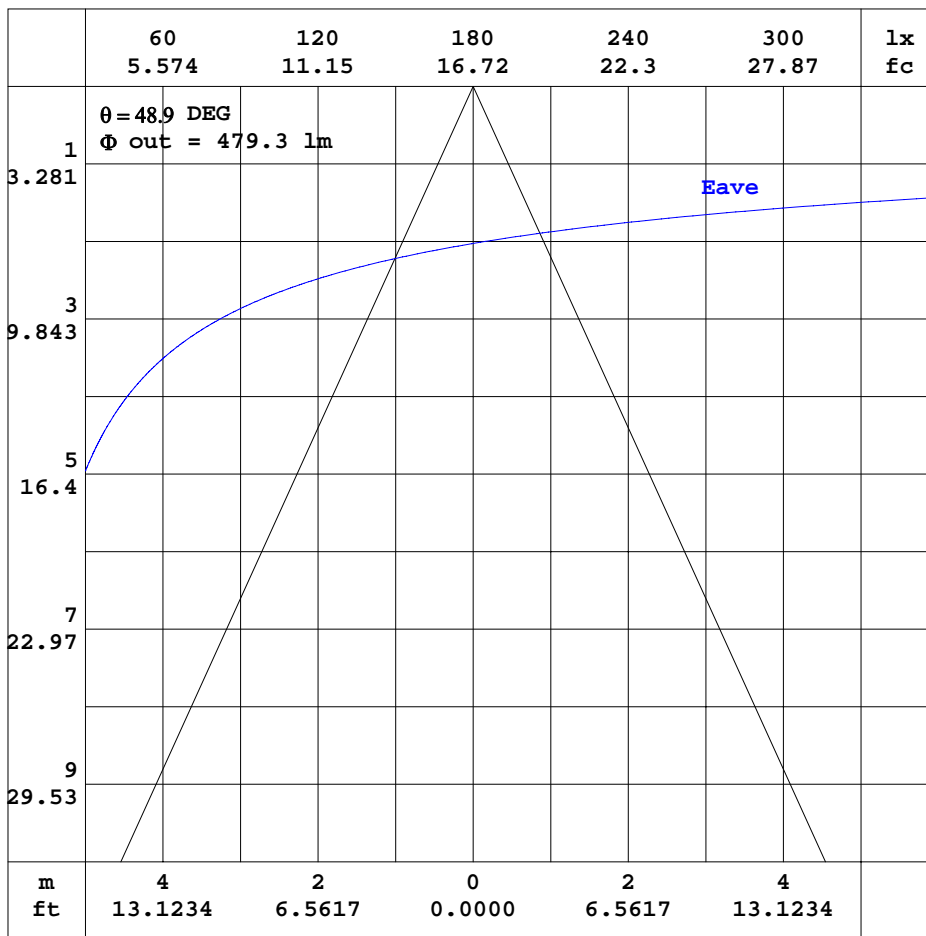
C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2021-12-10

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-i300\_V1 SYSTEM V2.0.406.11  
 Humidity:65.0%  
 Test Distance:3.161m [K=1.0000]  
 Remarks:



**AAI CURVES**

NAME: PAR20-9W-6000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	Shielding Angle:



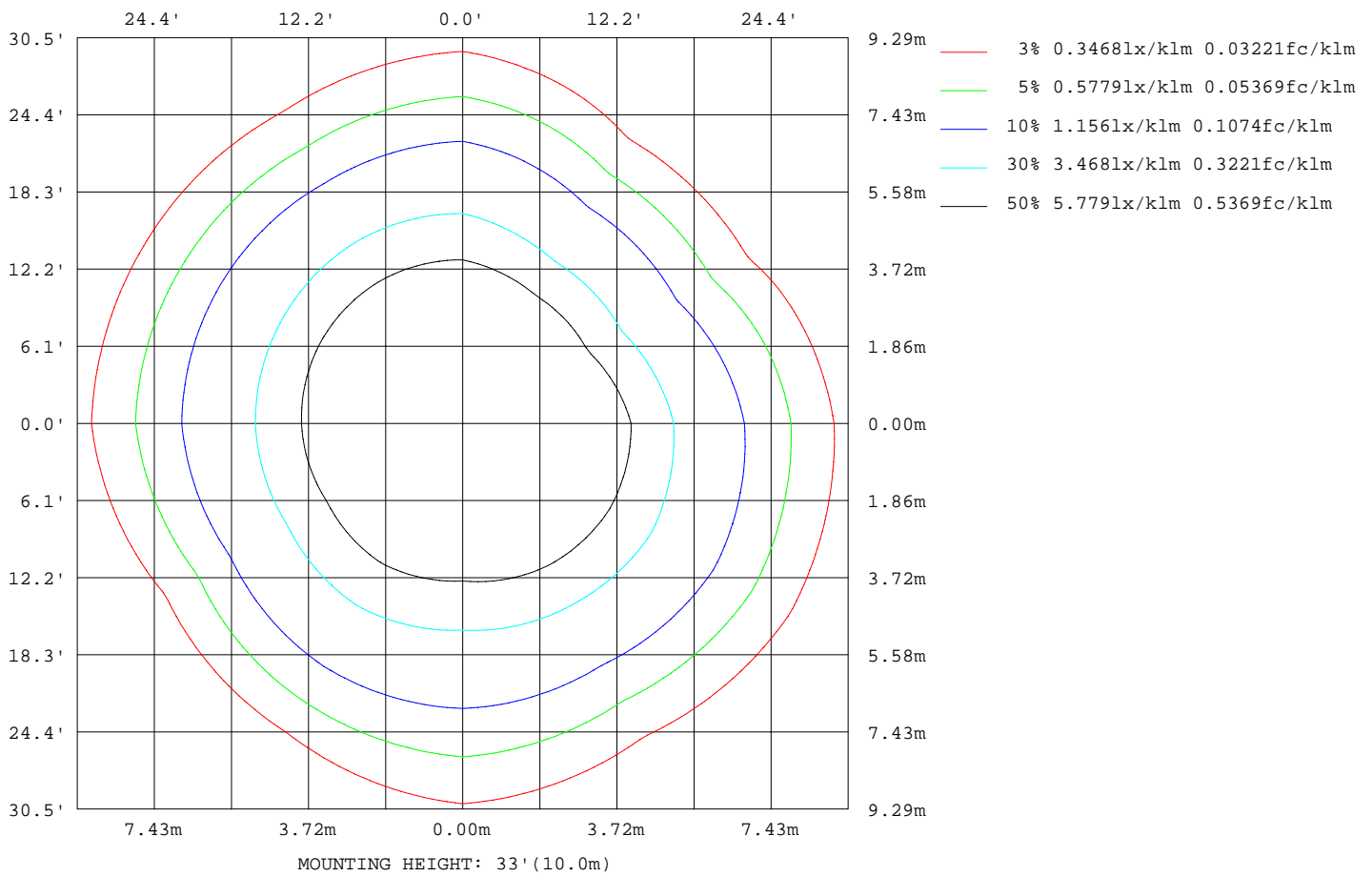
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DAMIN  
 Test Date: 2021-12-10

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System: EVERFINE GO-i300\_V1 SYSTEM V2.0.406.11  
 Humidity: 65.0%  
 Test Distance: 3.161m [K=1.0000]  
 Remarks:

**ISOLUX DIAGRAM**

NAME: PAR20-9W-6000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	Shielding Angle:



C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DAMIN  
 Test Date: 2021-12-10

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-i300\_V1 SYSTEM V2.0.406.11  
 Humidity: 65.0%  
 Test Distance: 3.161m [K=1.0000]  
 Remarks:

LED Avg.L Report

NAME: PAR20-9W-6000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	Shielding Angle:

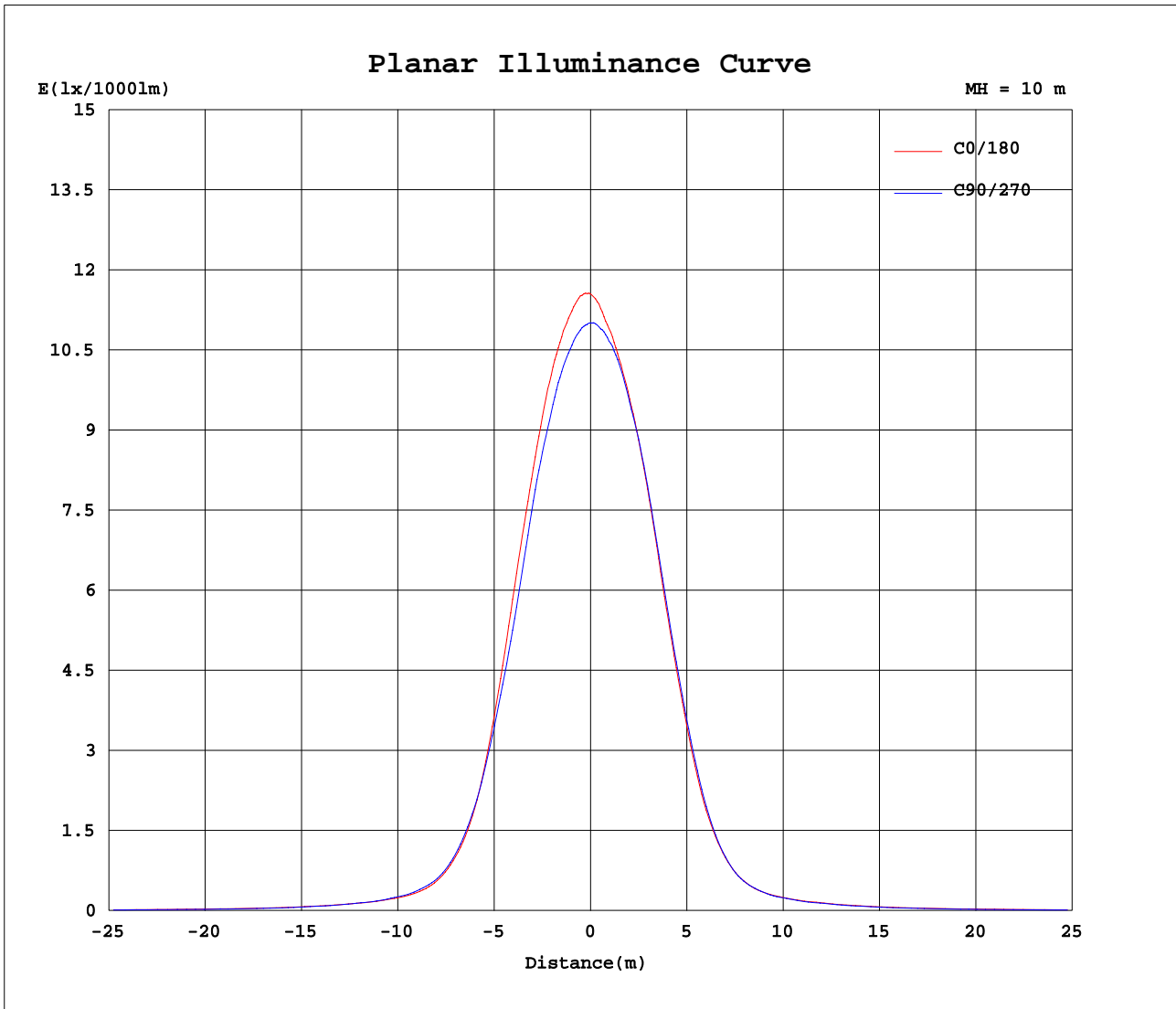
AvgL	cd/m2
L_0~180(65)av	727
L_0~180(75)av	865
L_0~180(85)av	1823
L_90~270(65)av	593
L_90~270(75)av	531
L_90~270(85)av	653
L_45(65)av	621
L_45(75)av	624
L_45(85)av	650

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2021-12-10

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-i300\_V1 SYSTEM V2.0.406.11  
 Humidity:65.0%  
 Test Distance:3.161m [K=1.0000]  
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DAMIN  
 Test Date: 2021-12-10

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System: EVERFINE GO-i300\_V1 SYSTEM V2.0.406.11  
 Humidity: 65.0%  
 Test Distance: 3.161m [K=1.0000]  
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: PAR20-9W-6000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	Shielding Angle:

Table--1

UNIT: cd/klm

C( DEG) γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330								
0	1155	1131	1115	1101	1086	1081	1155	1131	1115	1101	1086	1081								
5	1144	1123	1104	1079	1060	1046	1110	1102	1094	1086	1058	1054								
10	1091	1070	1047	1021	987	972	1044	1058	1036	1037	993	978								
15	986	965	938	916	894	871	940	956	942	943	863	844								
20	817	810	784	740	760	729	764	779	778	777	670	651								
25	584	621	588	542	573	526	552	563	580	568	413	399								
30	344	398	347	345	350	301	336	340	339	350	214	202								
35	184	210	173	193	175	137	180	173	165	183	103	101								
40	99.5	108	89.7	108	84.6	73.3	98.5	93.3	87.5	99.3	64.9	65.5								
45	68.1	71.8	63.1	73.2	58.1	55.9	69.7	65.3	63.4	67.8	51.2	51.9								
50	53.9	57.2	51.7	55.0	47.8	47.2	55.9	54.2	53.6	53.6	43.0	44.8								
55	44.5	46.6	41.9	42.1	39.7	39.8	44.2	42.6	41.4	41.3	33.9	37.3								
60	36.5	36.4	32.1	31.9	30.3	32.3	36.4	35.1	32.1	30.8	27.3	31.0								
65	30.9	30.0	26.1	25.6	24.6	26.8	30.5	29.1	25.8	24.6	22.6	26.5								
70	25.9	24.2	19.7	18.8	18.7	21.9	25.5	23.6	19.7	18.5	16.8	21.8								
75	22.7	19.9	15.0	14.0	12.8	17.4	22.1	19.9	14.9	13.5	12.5	18.5								
80	19.5	14.7	10.1	9.41	7.59	12.9	19.2	16.0	10.5	9.04	8.12	14.3								
85	16.2	8.84	5.24	5.67	2.79	6.39	15.6	10.8	6.08	5.70	2.88	6.87								
90	11.9	0.28	0.03	0.18	0.02	0.43	10.9	1.47	0.67	0.30	0.03	0.28								

C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2021-12-10

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-i300\_V1 SYSTEM V2.0.406.11  
 Humidity:65.0%  
 Test Distance:3.161m [K=1.0000]  
 Remarks: