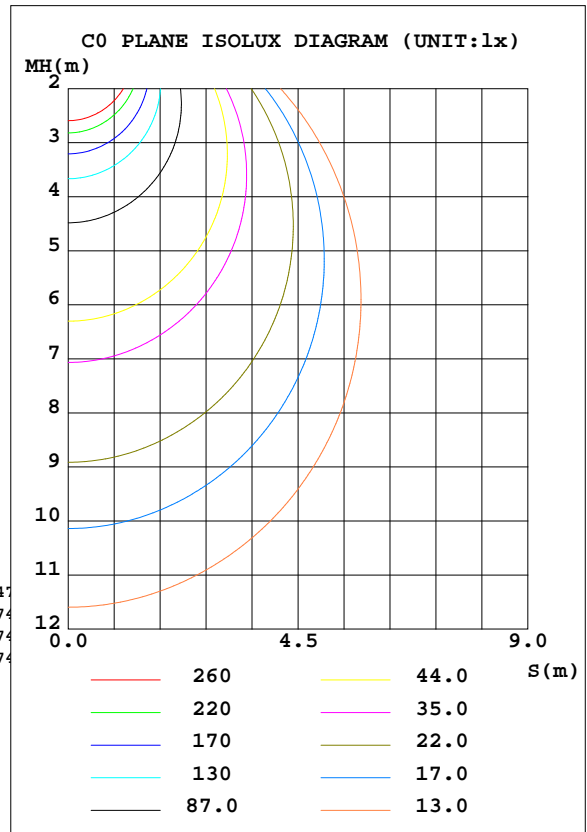
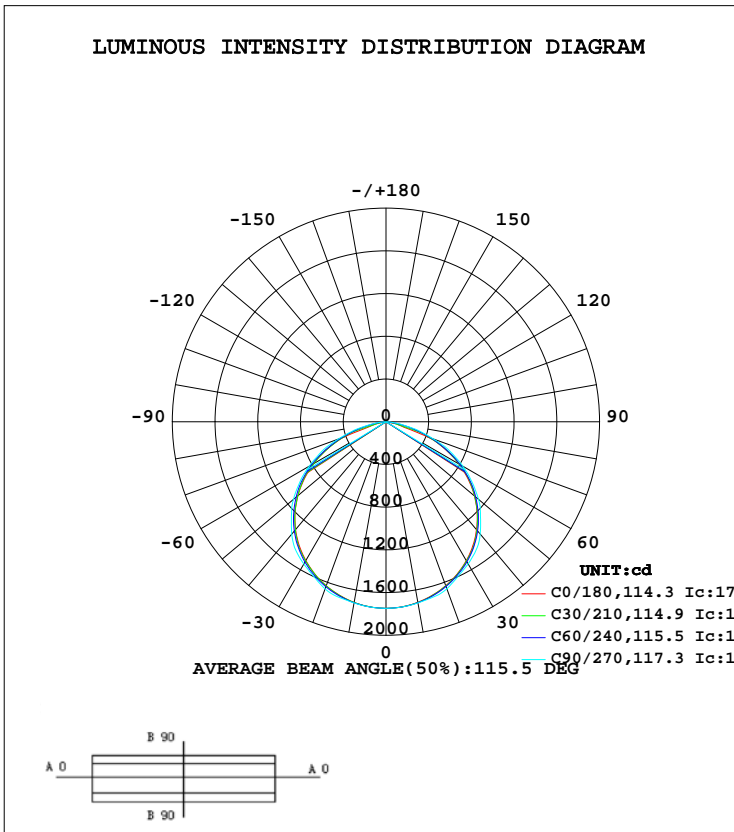


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:219.91V I:0.1705A P:35.689W PF:0.9521 Freq:49.89Hz Lamp Flux:4994.43x1 lm		
NAME: Kswordfish	TYPE:	WEIGHT:
SPEC.:Ex-KSF361200H7V7CH-U-IIC-E-G	DIM.:	SERIAL No.:
MFR.: KHJ		Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 139.94 lm/W			
MODEL		I _{max} (cd)	1747	S/MH(C0/180)	1.28
NOMINAL POWER(W)	200	LOR(%)	100.0	S/MH(C90/270)	1.31
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	4994.4	η UP, DN(C0-180)	0.3,49.6
NOMINAL FLUX(lm)	4994.43	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.4,49.7
LAMPS INSIDE	1	η up(%)	0.7	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	120.0	η down(%)	99.3	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2024-09-09

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.402
 Humidity:65.0%
 Test Distance:10.850m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

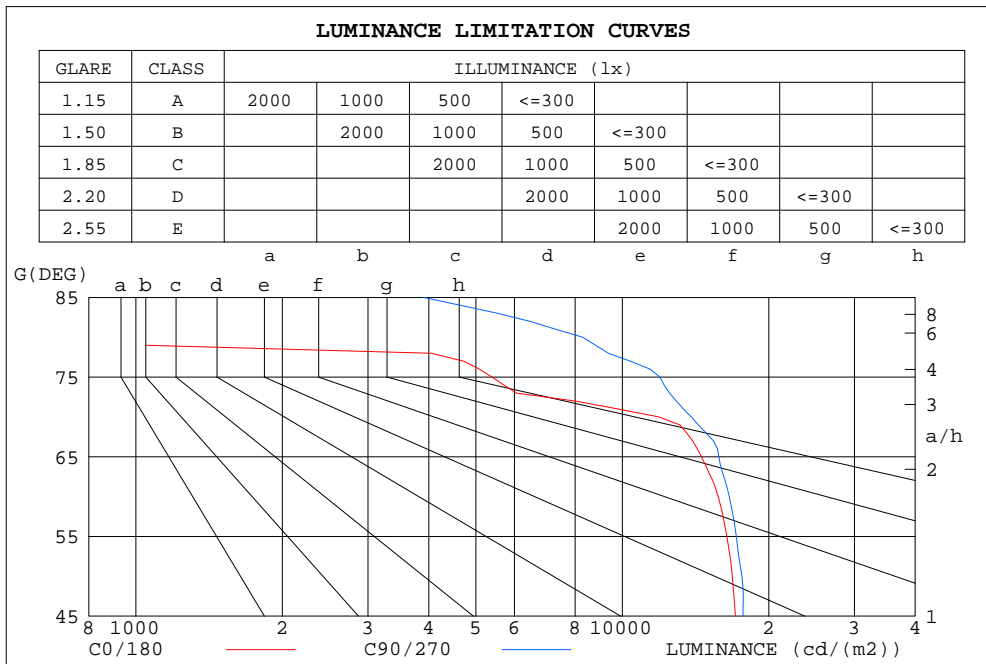
ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	lum, lamp
10	1717	1719	1722	1720	1718	1720	1723	1721	0- 10	165.5	165.5	3.31,3.31
20	1634	1640	1665	1641	1635	1641	1666	1643	10- 20	476.9	642.4	12.9,12.9
30	1502	1511	1537	1512	1501	1511	1539	1515	20- 30	730.6	1373	27.5,27.5
40	1319	1330	1373	1329	1317	1328	1373	1334	30- 40	897.0	2270	45.5,45.5
50	1082	1091	1132	1090	1076	1088	1132	1096	40- 50	941.8	3212	64.3,64.3
60	787.2	795.5	829.5	792.6	780.4	792.4	830.3	800.9	50- 60	853.1	4065	81.4,81.4
70	406.7	444.3	474.1	440.5	423.3	439.9	476.3	449.4	60- 70	619.4	4684	93.8,93.8
80	7.799	83.88	144.0	85.30	8.331	83.82	146.0	92.52	70- 80	253.8	4938	98.9,98.9
90	0.7455	1.035	1.306	1.011	1.299	1.699	2.081	1.882	80- 90	23.51	4962	99.3,99.3
100	1.549	1.786	2.062	1.851	2.629	2.779	3.035	2.825	90-100	1.871	4963	99.4,99.4
110	2.847	3.055	3.368	3.133	4.254	4.385	4.681	4.448	100-110	3.201	4967	99.4,99.4
120	4.176	4.357	4.708	4.452	5.825	5.918	6.223	6.015	110-120	4.451	4971	99.5,99.5
130	5.451	5.723	6.030	5.759	7.099	7.192	7.480	7.382	120-130	5.253	4976	99.6,99.6
140	6.748	6.961	7.093	6.867	8.120	8.112	8.357	8.385	130-140	5.473	4982	99.7,99.7
150	7.762	7.987	7.945	7.756	8.810	8.713	8.860	9.042	140-150	5.008	4987	99.8,99.8
160	8.938	9.098	8.893	8.786	9.548	9.305	9.291	9.647	150-160	4.060	4991	99.9,99.9
170	9.888	9.840	9.576	9.610	10.05	9.589	9.388	9.834	160-170	2.674	4993	100,100
180	10.32	9.983	9.721	9.943	10.31	9.971	9.713	9.943	170-180	0.9392	4994	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2024-09-09

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.402
 Humidity:65.0%
 Test Distance:10.850m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES



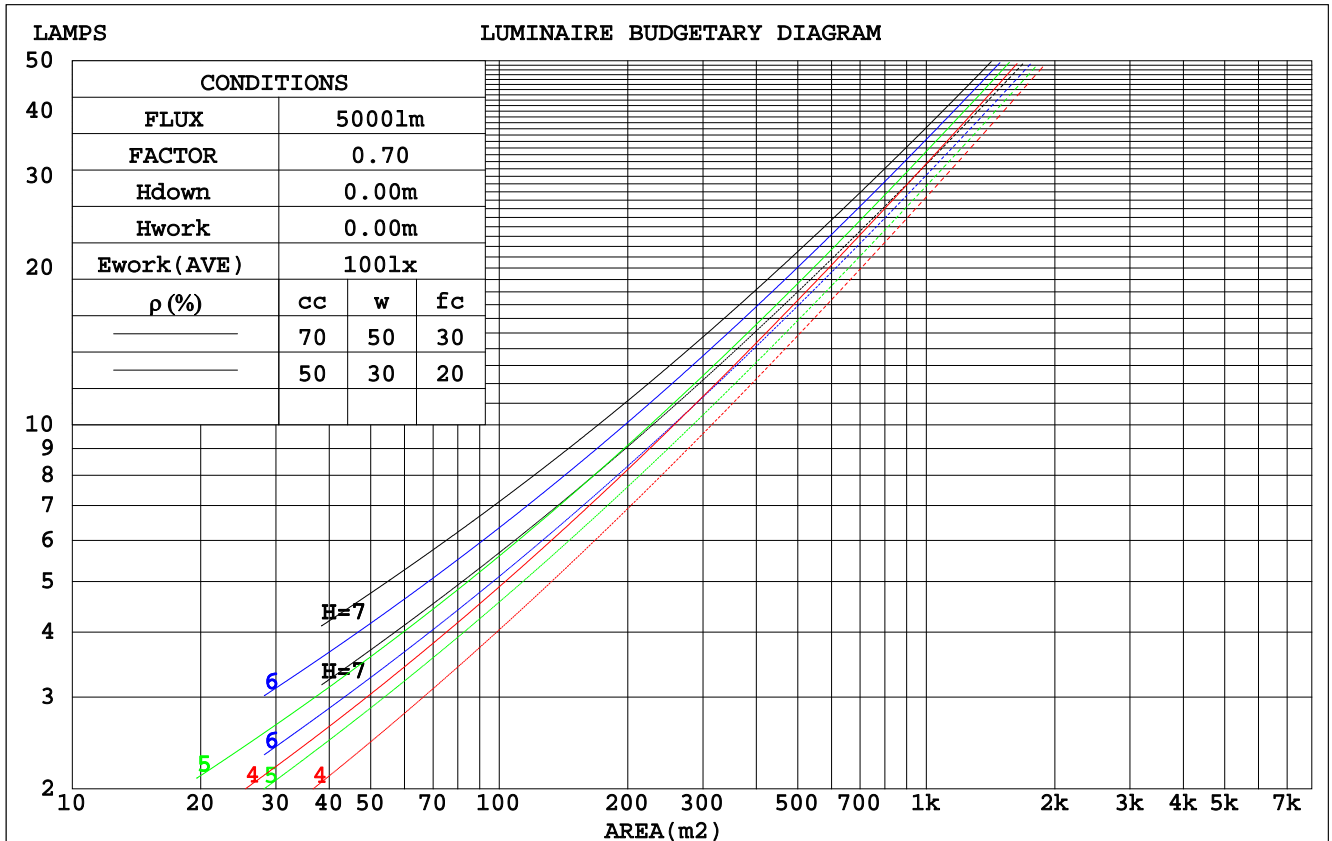
LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	599	3902
80	449	8293
75	5398	11950
70	11895	13861
65	14541	15792
60	15748	16590
55	16406	17151
50	16832	17609
45	17075	17702

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2024-09-09

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.402
 Humidity: 65.0%
 Test Distance: 10.850m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

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	1.05	1.01	.97	1.03	.99	.96	.98	.95	.93	.94	.92	.90	.91	.89	.87	.85
2.0	.92	.85	.80	.90	.84	.79	.86	.81	.77	.83	.79	.75	.80	.76	.73	.71
3.0	.81	.73	.66	.79	.72	.66	.76	.70	.64	.73	.68	.63	.70	.66	.62	.60
4.0	.71	.63	.56	.70	.62	.56	.67	.60	.55	.65	.59	.54	.63	.58	.53	.51
5.0	.64	.55	.48	.63	.54	.48	.60	.53	.47	.58	.52	.47	.56	.51	.46	.44
6.0	.57	.48	.42	.56	.48	.42	.54	.47	.41	.53	.46	.41	.51	.45	.41	.39
7.0	.52	.43	.37	.51	.43	.37	.49	.42	.37	.48	.41	.36	.47	.41	.36	.34
8.0	.47	.39	.33	.47	.38	.33	.45	.38	.33	.44	.37	.32	.43	.37	.32	.30
9.0	.43	.35	.30	.43	.35	.30	.42	.34	.29	.40	.34	.29	.39	.33	.29	.27
10.0	.40	.32	.27	.39	.32	.27	.38	.31	.27	.37	.31	.26	.36	.31	.26	.25



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2024-09-09

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.402
 Humidity: 65.0%
 Test Distance: 10.850m [K=1.0000]
 Remarks:

WEC AND CCEC

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	.287	.163	.052	.280	.160	.051	.266	.153	.049	.254	.146	.047	.242	.141	.045	
2.0	.278	.152	.047	.272	.150	.046	.260	.144	.045	.249	.139	.044	.238	.135	.043	
3.0	.261	.139	.042	.255	.137	.041	.245	.133	.040	.235	.129	.040	.226	.125	.039	
4.0	.243	.126	.037	.238	.125	.037	.229	.121	.036	.220	.118	.036	.212	.115	.035	
5.0	.226	.115	.033	.222	.114	.033	.213	.111	.033	.205	.108	.032	.198	.106	.032	
6.0	.211	.106	.030	.207	.104	.030	.199	.102	.030	.192	.100	.029	.186	.098	.029	
7.0	.196	.097	.028	.193	.096	.027	.186	.094	.027	.180	.092	.027	.174	.090	.027	
8.0	.184	.090	.025	.181	.089	.025	.175	.087	.025	.169	.086	.025	.164	.084	.024	
9.0	.173	.084	.023	.170	.083	.023	.164	.081	.023	.159	.080	.023	.155	.078	.023	
10.0	.163	.078	.022	.160	.077	.022	.155	.076	.021	.150	.075	.021	.146	.073	.021	

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	.195	.195	.195	.167	.167	.167	.114	.114	.114	.066	.066	.066	.021	.021	.021	
1.0	.184	.161	.141	.157	.139	.122	.108	.095	.084	.062	.055	.049	.020	.018	.016	
2.0	.175	.137	.105	.150	.118	.091	.103	.082	.063	.059	.047	.037	.019	.015	.012	
3.0	.168	.119	.081	.144	.103	.070	.099	.072	.049	.057	.042	.029	.018	.014	.009	
4.0	.160	.106	.064	.138	.092	.056	.095	.064	.039	.055	.037	.023	.018	.012	.008	
5.0	.153	.096	.053	.132	.083	.046	.091	.058	.033	.053	.034	.019	.017	.011	.006	
6.0	.146	.087	.045	.126	.076	.039	.087	.053	.028	.050	.031	.016	.016	.010	.005	
7.0	.140	.080	.039	.120	.070	.034	.083	.049	.024	.048	.029	.014	.016	.009	.005	
8.0	.133	.075	.034	.115	.065	.030	.079	.045	.021	.046	.027	.013	.015	.009	.004	
9.0	.127	.070	.031	.110	.060	.027	.076	.042	.019	.044	.025	.011	.014	.008	.004	
10.0	.122	.065	.028	.105	.057	.024	.073	.040	.017	.043	.024	.010	.014	.008	.003	

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2024-09-09

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.402
 Humidity:65.0%
 Test Distance:10.850m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

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	22.7	24.2	23.0	24.4	24.6	22.9	24.4	23.1	24.6	24.8
3H	23.9	25.3	24.2	25.5	25.8	24.2	25.6	24.5	25.9	26.1
4H	24.0	25.3	24.3	25.6	25.8	24.7	26.0	25.0	26.2	26.5
6H	23.9	25.2	24.3	25.4	25.7	24.9	26.1	25.2	26.4	26.7
8H	23.9	25.1	24.2	25.4	25.7	24.9	26.1	25.2	26.4	26.7
12H	23.8	25.0	24.2	25.3	25.6	24.9	26.0	25.2	26.3	26.6
4H 2H	23.3	24.6	23.6	24.8	25.1	23.4	24.7	23.7	25.0	25.2
3H	24.6	25.8	25.0	26.1	26.4	24.9	26.0	25.3	26.3	26.7
4H	24.8	25.8	25.1	26.1	26.5	25.4	26.5	25.8	26.8	27.1
6H	24.7	25.6	25.1	26.0	26.4	25.7	26.6	26.1	27.0	27.4
8H	24.7	25.5	25.1	25.9	26.3	25.7	26.6	26.2	27.0	27.4
12H	24.6	25.4	25.1	25.8	26.2	25.7	26.5	26.2	26.9	27.3
8H 4H	24.9	25.7	25.3	26.1	26.5	25.5	26.4	25.9	26.7	27.1
6H	24.9	25.6	25.3	26.0	26.4	25.9	26.6	26.3	27.0	27.4
8H	24.8	25.4	25.3	25.9	26.3	25.9	26.5	26.4	27.0	27.4
12H	24.8	25.3	25.3	25.8	26.3	25.9	26.4	26.4	26.9	27.4
12H 4H	24.8	25.6	25.3	26.0	26.4	25.5	26.2	25.9	26.6	27.1
6H	24.8	25.5	25.3	25.9	26.4	25.8	26.4	26.3	26.9	27.3
8H	24.8	25.3	25.3	25.8	26.3	25.9	26.4	26.4	26.9	27.4
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.2				
1.5H	+ 0.2 / - 0.5					+ 0.1 / - 0.3				
2.0H	+ 0.2 / - 0.6					+ 0.3 / - 0.4				

CIE Pub.117, 4994 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 5.6)

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2024-09-09

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.402
 Humidity:65.0%
 Test Distance:10.850m [K=1.0000]
 Remarks:

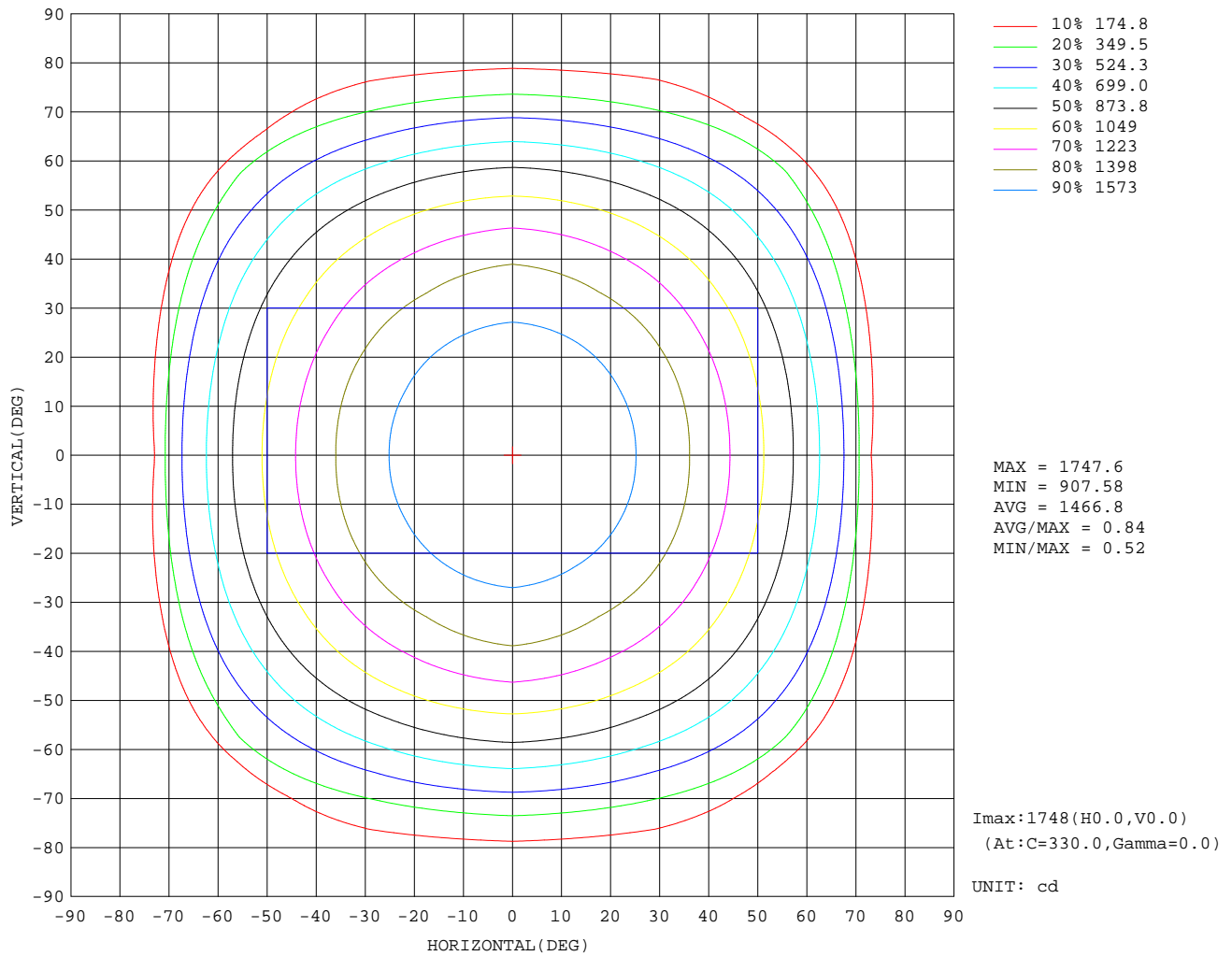
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	58	46	39	57	46	39	56	45	39	33
0.80	68	57	49	67	56	49	65	55	49	42
1.00	77	66	59	76	65	58	73	67	58	51
1.25	84	74	67	83	73	66	80	72	66	58
1.50	89	79	73	87	79	72	84	77	71	64
2.00	96	88	82	94	87	81	91	84	79	71
2.50	100	92	87	98	91	86	94	88	84	76
3.00	103	97	91	101	95	90	97	92	88	80
4.00	107	102	97	105	100	96	100	96	93	84
5.00	109	105	101	107	103	99	102	99	96	87
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:2024-09-09

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.402
 Humidity:65.0%
 Test Distance:10.850m [K=1.0000]
 Remarks:

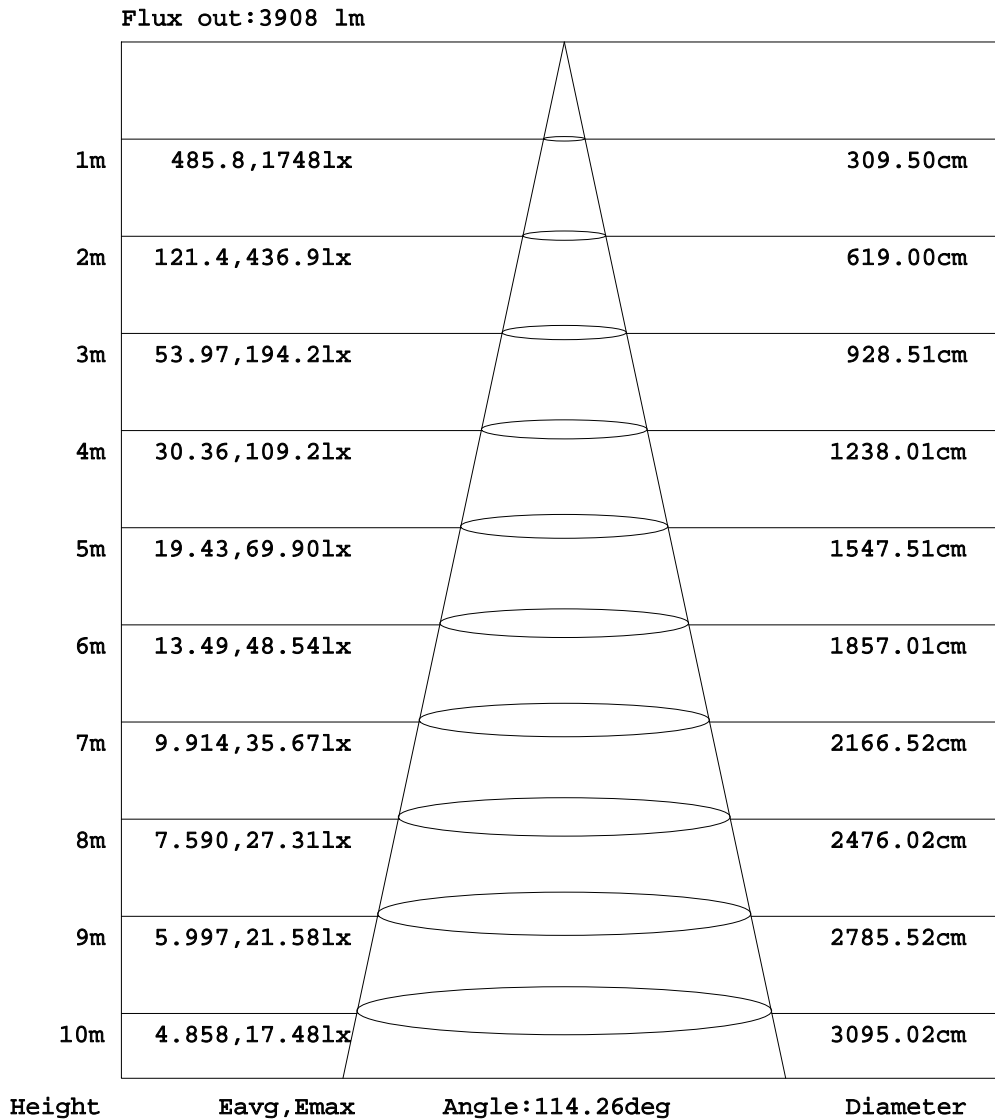
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2024-09-09

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.402
 Humidity: 65.0%
 Test Distance: 10.850m [K=1.0000]
 Remarks:

AAI Figure

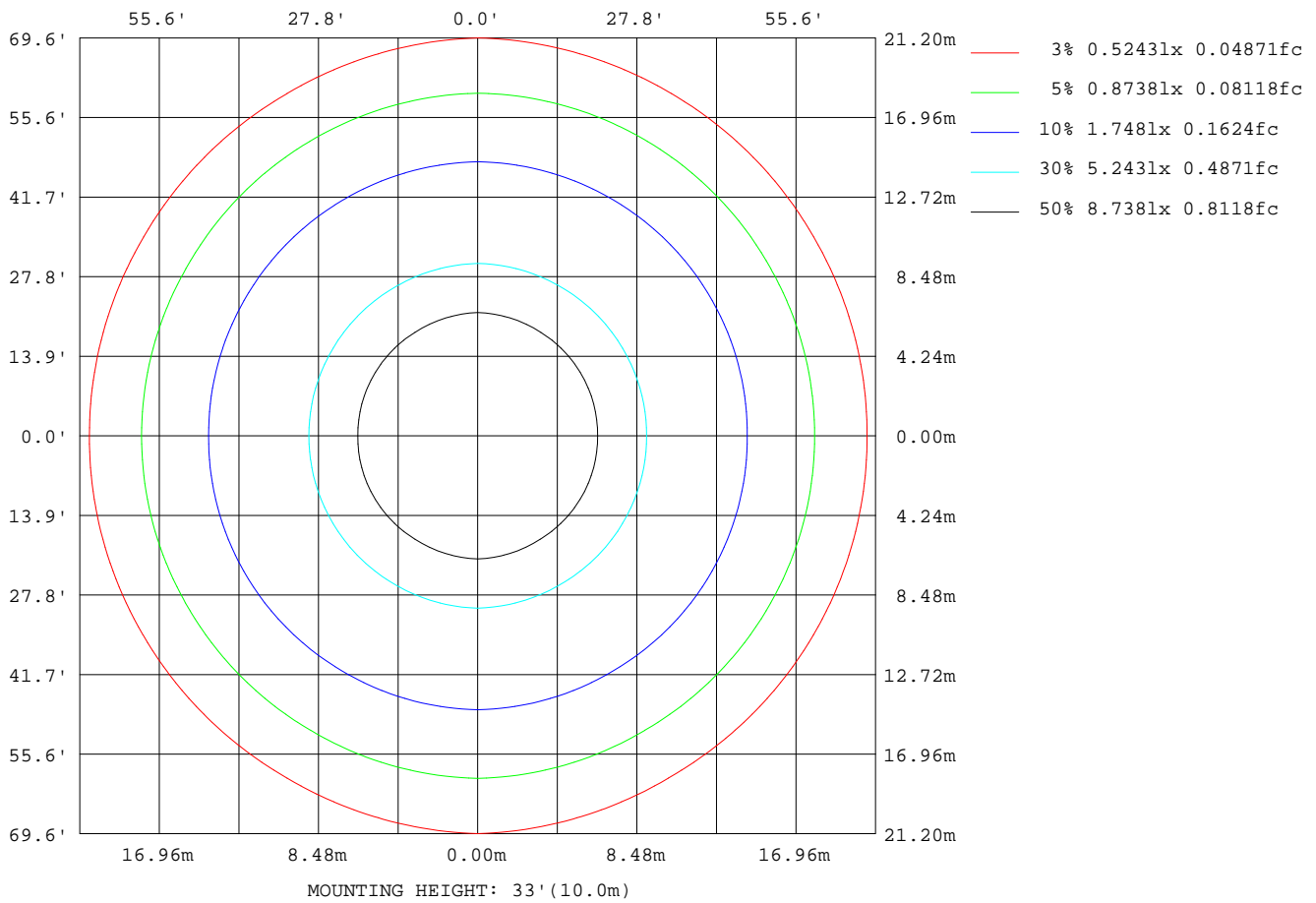


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2024-09-09

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.402
 Humidity:65.0%
 Test Distance:10.850m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2024-09-09

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.402
 Humidity: 65.0%
 Test Distance: 10.850m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:219.91V I:0.1705A P:35.689W PF:0.9521 Freq:49.89Hz Lamp Flux:4994.43x1 lm		
NAME: KswordFish	TYPE:	WEIGHT:
SPEC.:Ex-KSF361200H7V7CH-U-IIC-E-G	DIM.:	SERIAL No.:
MFR.: KHJ		Shielding Angle:

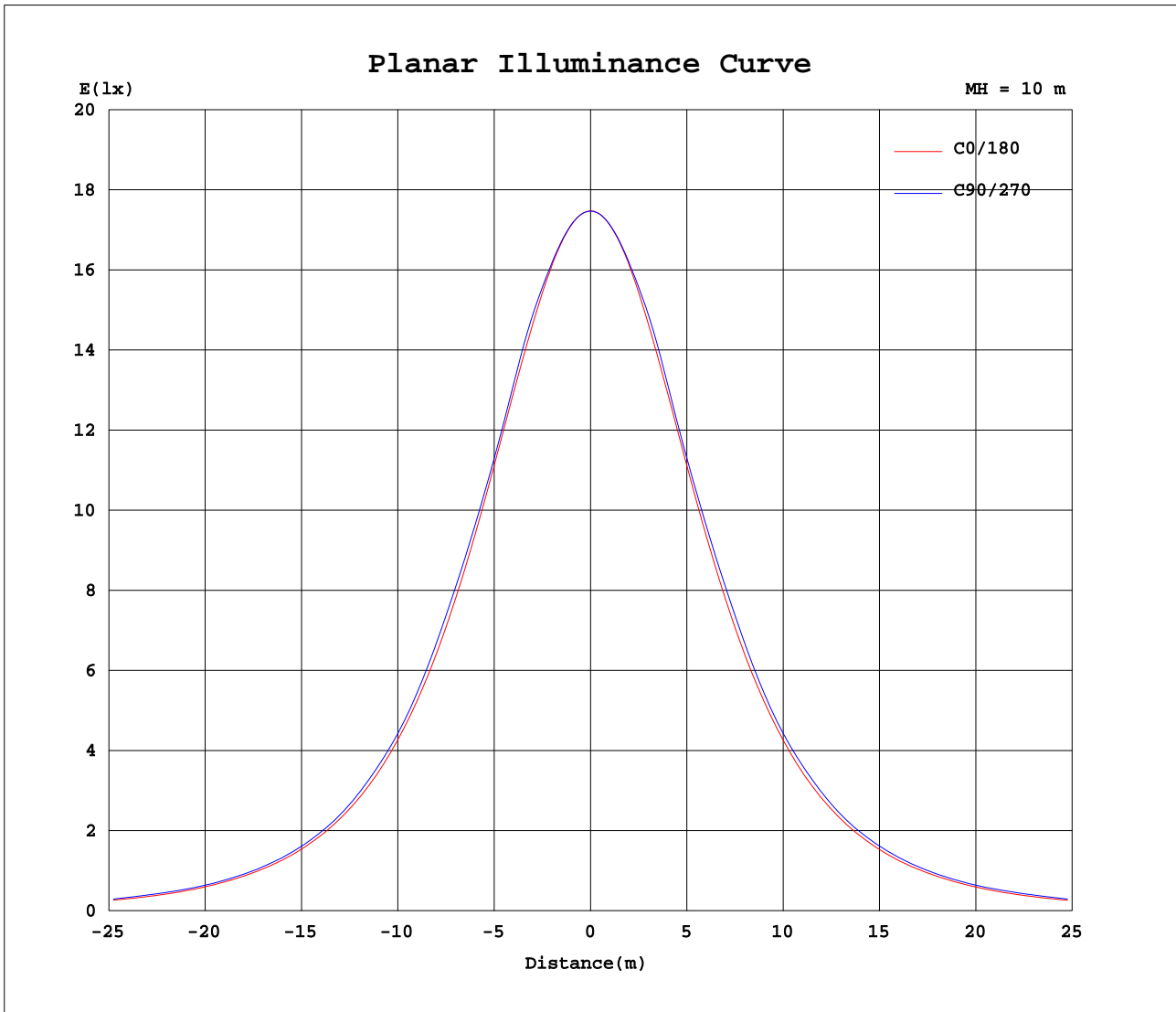
AvgL	cd/m2
L_0~180(65)av	14453
L_0~180(75)av	5340
L_0~180(85)av	604
L_90~270(65)av	15799
L_90~270(75)av	11970
L_90~270(85)av	4014
L_45(65)av	14698
L_45(75)av	8638
L_45(85)av	829

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2024-09-09

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.402
 Humidity:65.0%
 Test Distance:10.850m [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: 2024-09-09

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.402
 Humidity: 65.0%
 Test Distance: 10.850m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Table--1

UNIT: cd

C(DEG) γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330							
0	1747	1747	1747	1747	1747	1747	1747	1747	1747	1747	1747	1747							
5	1739	1740	1740	1741	1741	1740	1740	1740	1740	1741	1741	1740							
10	1717	1718	1720	1722	1721	1719	1718	1718	1721	1723	1722	1719							
15	1681	1684	1688	1701	1689	1685	1682	1684	1689	1702	1692	1685							
20	1634	1637	1642	1665	1645	1638	1635	1636	1645	1666	1648	1638							
25	1575	1578	1584	1598	1587	1578	1574	1577	1588	1599	1590	1579							
30	1502	1507	1515	1537	1517	1507	1501	1505	1517	1539	1520	1509							
35	1418	1428	1432	1470	1433	1427	1416	1425	1434	1471	1438	1429							
40	1319	1325	1335	1373	1336	1323	1317	1321	1336	1373	1342	1326							
45	1207	1211	1223	1252	1224	1209	1204	1206	1223	1252	1230	1212							
50	1082	1085	1097	1132	1099	1082	1076	1078	1098	1132	1105	1086							
55	941	952	959	984	960	948	935	945	962	986	967	954							
60	787	791	800	829	799	786	780	782	802	830	809	792							
65	614	620	628	667	627	615	607	610	627	668	637	621							
70	407	438	451	474	448	433	423	430	450	476	458	441							
75	140	159	274	309	273	177	137	148	275	310	283	200							
80	7.80	50.3	117	144	116	54.5	8.33	47.6	120	146	124	60.7							
85	5.22	5.00	8.73	34.0	12.7	5.00	5.32	5.36	11.3	36.0	15.7	5.39							
90	0.75	0.85	1.22	1.31	1.17	0.85	1.30	1.43	1.97	2.08	2.25	1.52							
95	1.02	1.18	1.31	1.49	1.36	1.24	1.91	1.92	2.21	2.31	2.26	1.96							
100	1.55	1.72	1.85	2.06	1.91	1.80	2.63	2.64	2.92	3.03	2.97	2.68							
105	2.19	2.35	2.47	2.71	2.55	2.43	3.39	3.44	3.72	3.85	3.78	3.47							
110	2.85	2.99	3.12	3.37	3.20	3.07	4.25	4.25	4.52	4.68	4.60	4.29							
115	3.51	3.64	3.78	4.03	3.85	3.75	5.06	5.05	5.30	5.49	5.42	5.07							
120	4.18	4.26	4.45	4.71	4.50	4.40	5.82	5.78	6.05	6.22	6.19	5.84							
125	4.80	4.91	5.15	5.39	5.17	5.05	6.49	6.44	6.73	6.89	6.89	6.57							
130	5.45	5.61	5.83	6.03	5.79	5.72	7.10	7.07	7.31	7.48	7.56	7.21							
135	6.17	6.29	6.46	6.62	6.39	6.35	7.69	7.62	7.83	7.99	8.08	7.78							
140	6.75	6.89	7.03	7.09	6.87	6.87	8.12	8.04	8.19	8.36	8.51	8.26							
145	7.27	7.43	7.51	7.53	7.28	7.31	8.50	8.40	8.49	8.63	8.85	8.65							
150	7.76	7.98	7.99	7.95	7.73	7.78	8.81	8.69	8.74	8.86	9.12	8.96							
155	8.38	8.62	8.53	8.44	8.25	8.31	9.21	9.06	9.04	9.12	9.45	9.36							
160	8.94	9.22	8.98	8.89	8.76	8.81	9.55	9.35	9.26	9.29	9.61	9.68							
165	9.41	9.69	9.32	9.24	9.15	9.22	9.77	9.54	9.36	9.33	9.67	9.84							
170	9.89	10.0	9.65	9.58	9.55	9.67	10.1	9.73	9.44	9.39	9.72	9.94							
175	10.2	10.1	9.77	9.70	9.80	9.94	10.3	9.96	9.65	9.54	9.81	9.97							
180	10.3	10.2	9.80	9.72	9.85	10.0	10.3	10.1	9.82	9.71	9.86	10.0							

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2024-09-09

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.402
 Humidity: 65.0%
 Test Distance: 10.850m [K=1.0000]
 Remarks: