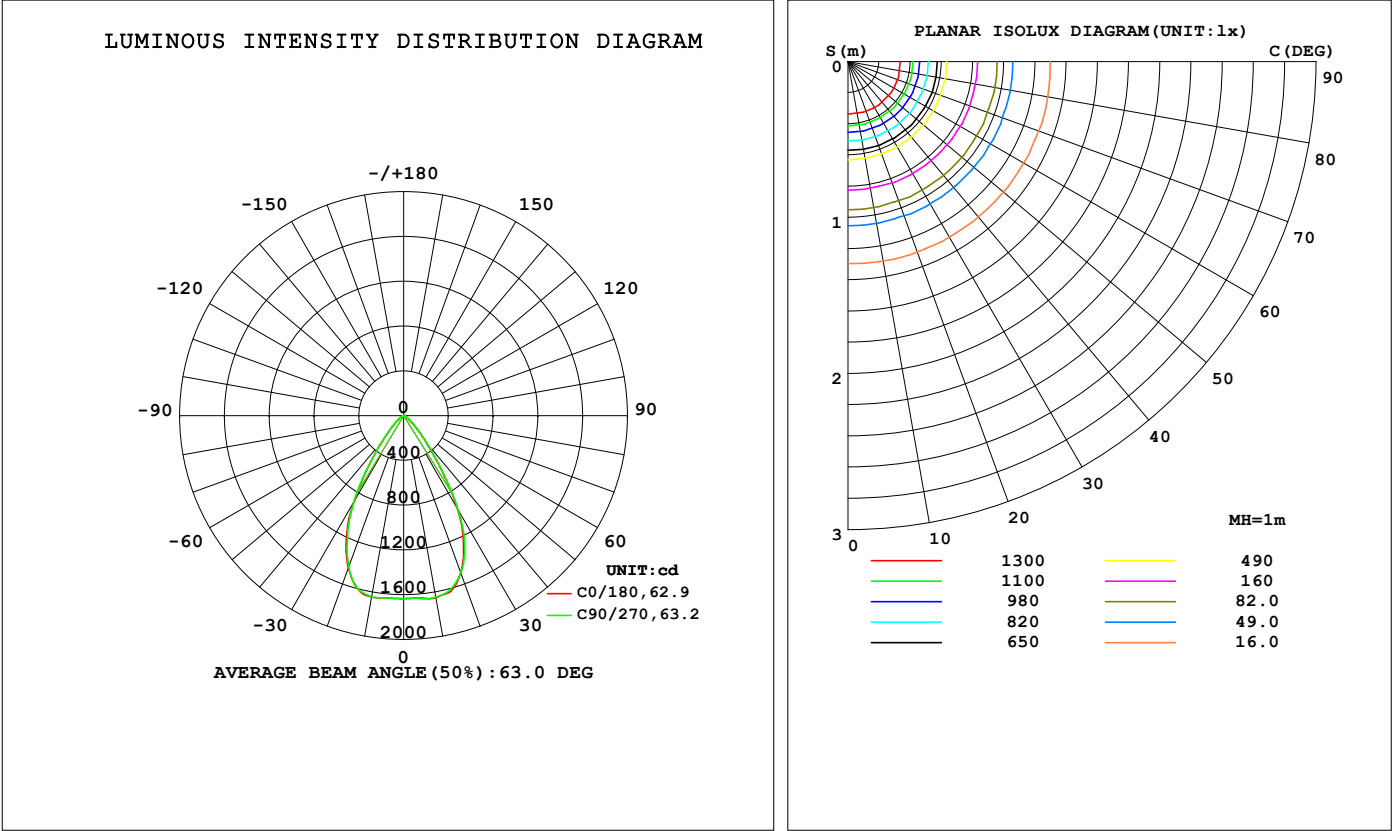


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:240.4V I:0.0636A P:14.9W PF:0.9739 Freq:49.99Hz		
UTHDi:0.18% ITHDi:8.14% KDisp:0.9802 Lamp Flux:1722.96x1 lm		
NAME: TR11-20-XX-01+白色防眩环 3000K RA90 60D 15W	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 115.75 lm/W
MODEL		Imax (cd)	1661	S/MH(C0/180)	0.91	
NOMINAL POWER(W)	15	LOR(%)	100.0	S/MH(C90/270)	0.92	
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	1723.0	η UP,DN(C0-180)	0.0,50.8	
NOMINAL FLUX(lm)	1722.96	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,49.2	
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.75	
TEST VOLTAGE(V)	240.41	η down (%)	100.0	CIBSE SHR MAX	0.95	



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-08-14

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [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	1651	1658	1645	1630	1645	1643	1643	1660	0- 10	156.8	156.8	9.1,9.1
20	1495	1507	1495	1443	1448	1419	1436	1497	10- 20	447.7	604.4	35.1,35.1
30	963.1	988.2	976.8	904.9	896.4	873.3	896.0	964.3	20- 30	560.4	1165	67.6,67.6
40	319.9	334.6	331.5	294.1	294.7	282.1	291.6	325.2	30- 40	360.1	1525	88.5,88.5
50	93.56	96.04	95.16	84.00	85.99	81.58	84.03	95.18	40- 50	135.4	1660	96.4,96.4
60	25.21	25.44	26.20	22.86	23.01	24.02	25.93	26.75	50- 60	45.30	1706	99,99
70	7.245	6.914	6.721	6.454	6.581	6.746	7.007	7.531	60- 70	13.49	1719	99.8,99.8
80	1.624	1.412	1.288	1.361	1.387	1.485	1.657	1.587	70- 80	3.298	1722	100,100
90	0.0376	0.0283	0.0408	0.0321	0.0305	0.0267	0.0318	0.0273	80- 90	0.4833	1723	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									UNIT:lm		

Conical surface Flux(90deg): 1610.3 lm

%lum = 93.5%

%lamp = 93.5%

Conical surface Flux(120deg): 1705.7 lm

%lum = 99.0%

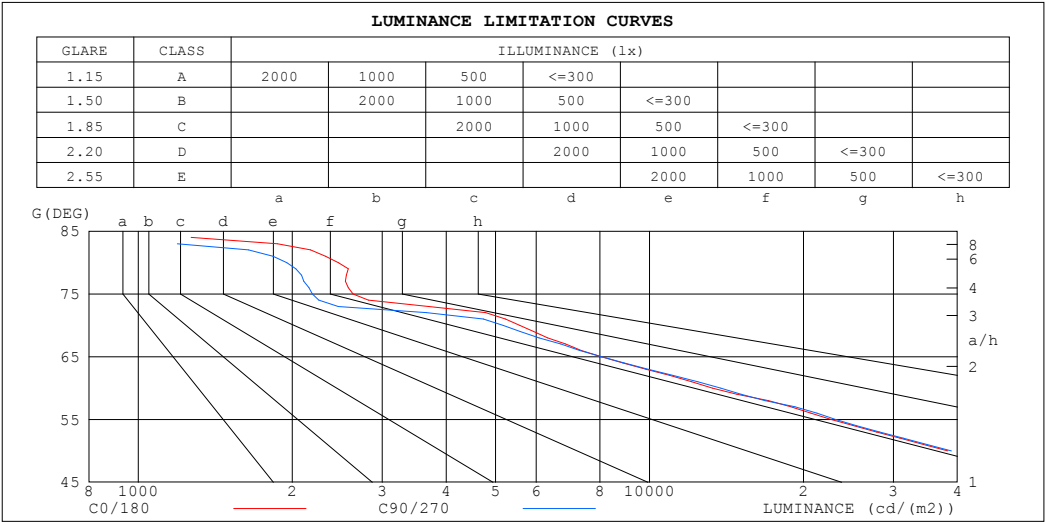
%lamp = 99.0%

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-08-14

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:240.4V I:0.0636A P:14.9W PF:0.9739 Freq:49.99Hz		
UTHDi:0.18% ITHDi:8.14% KDisp:0.9802 Lamp Flux:1722.96x1 lm		
NAME: TR11-20-XX-01+白色防眩环 3000K RA90 60D 15W	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	495	374
80	2462	1952
75	2629	2189
70	5578	5170
65	8049	8061
60	13277	13784
55	22675	23146
50	38327	38949
45	64634	66588

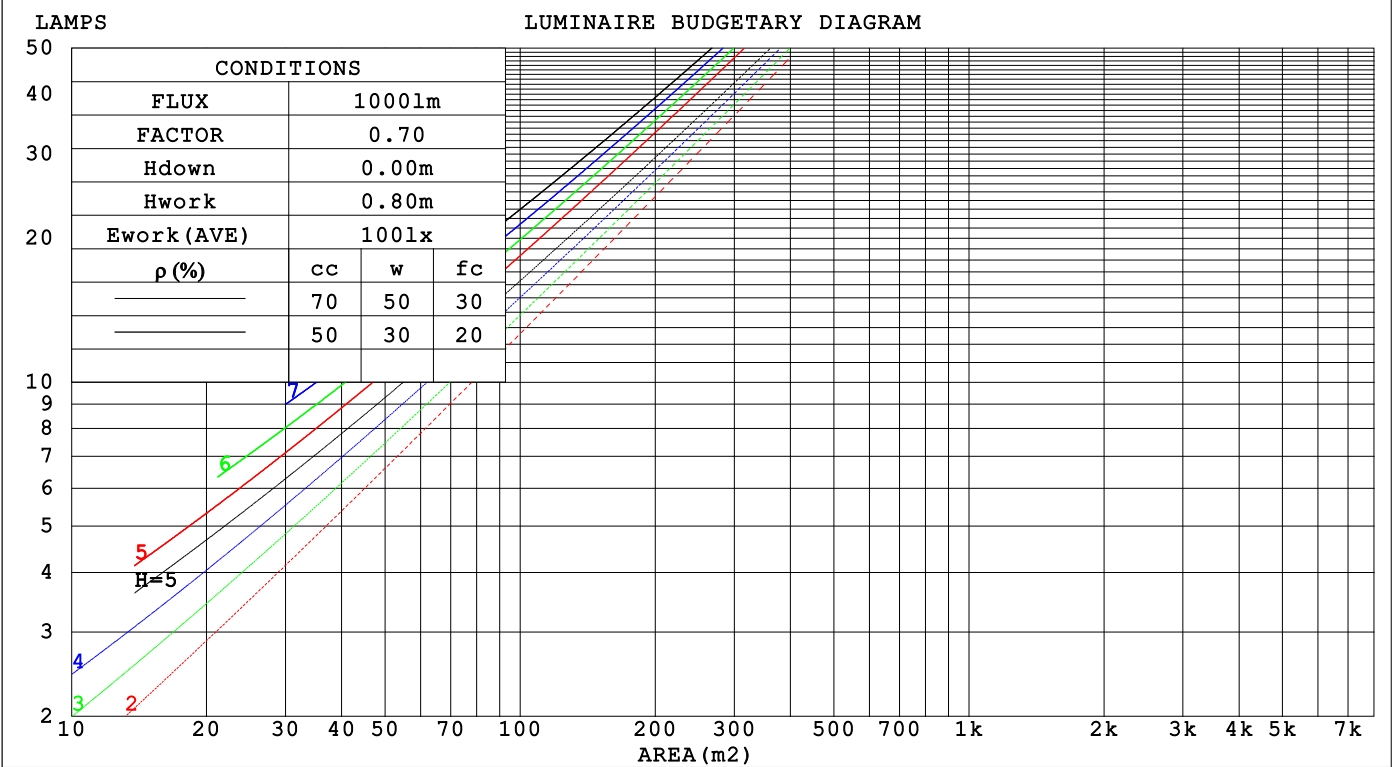
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-08-14

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:240.4V I:0.0636A P:14.9W PF:0.9739 Freq:49.99Hz		
UTHDi:0.18% ITHDi:8.14% KDisp:0.9802 Lamp Flux:1722.96x1 lm		
NAME: TR11-20-XX-01+白色防眩环 3000K RA90 60D 15W	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	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															



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-08-14

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:240.4V I:0.0636A P:14.9W PF:0.9739 Freq:49.99Hz		
UTHDi:0.18% ITHDi:8.14% KDisp:0.9802 Lamp Flux:1722.96x1 lm		
NAME: TR11-20-XX-01+白色防眩环 3000K RA90 60D 15W	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	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	.185	.105	.033	.178	.102	.032	.166	.095	.030	.154	.089	.029	.143	.083	.027															
2.0	.178	.098	.030	.173	.095	.029	.162	.090	.028	.152	.085	.027	.143	.081	.025															
3.0	.170	.091	.027	.165	.089	.027	.156	.085	.026	.148	.081	.025	.140	.077	.024															
4.0	.162	.084	.025	.158	.083	.024	.150	.080	.024	.143	.077	.023	.136	.074	.023															
5.0	.155	.079	.023	.151	.078	.023	.144	.075	.022	.138	.073	.022	.132	.070	.021															
6.0	.148	.074	.021	.144	.073	.021	.138	.071	.021	.133	.069	.020	.127	.067	.020															
7.0	.141	.070	.020	.138	.069	.020	.133	.067	.019	.128	.065	.019	.123	.064	.019															
8.0	.135	.066	.019	.132	.065	.018	.127	.064	.018	.123	.062	.018	.118	.061	.018															
9.0	.129	.062	.017	.127	.062	.017	.122	.060	.017	.118	.059	.017	.114	.058	.017															
10.0	.124	.059	.016	.122	.059	.016	.118	.058	.016	.114	.057	.016	.110	.056	.016															

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	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.172	.157	.144	.147	.135	.124	.100	.093	.086	.058	.054	.050	.019	.017	.016	
2.0	.157	.132	.112	.135	.114	.097	.092	.079	.067	.053	.046	.039	.017	.015	.013	
3.0	.145	.114	.088	.125	.098	.077	.086	.068	.054	.049	.040	.032	.016	.013	.010	
4.0	.135	.099	.071	.116	.086	.062	.080	.060	.044	.046	.035	.026	.015	.011	.008	
5.0	.127	.088	.058	.109	.076	.051	.075	.053	.036	.044	.031	.021	.014	.010	.007	
6.0	.120	.078	.049	.103	.068	.042	.071	.048	.030	.041	.028	.018	.013	.009	.006	
7.0	.114	.071	.041	.098	.062	.036	.067	.043	.025	.039	.025	.015	.013	.008	.005	
8.0	.108	.065	.035	.093	.056	.031	.064	.039	.022	.037	.023	.013	.012	.008	.004	
9.0	.103	.060	.031	.089	.052	.027	.061	.036	.019	.036	.022	.011	.012	.007	.004	
10.0	.098	.055	.027	.085	.048	.023	.059	.034	.017	.034	.020	.010	.011	.007	.003	

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-08-14

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:240.4V I:0.0636A P:14.9W PF:0.9739 Freq:49.99Hz											
UTHDi:0.18% ITHDi:8.14% KDisp:0.9802Lamp Flux:1722.96x1 lm											
NAME: TR11-20-XX-01+白色防眩环 3000K RA90 60D 15W						TYPE:		WEIGHT:			
SPEC.:						DIM.:		SERIAL No.:			
MFR.: Norming lighting						SUR.: 70mm		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	23.0	24.0	23.2	24.2	24.3	23.1	24.1	23.3	24.2	24.4	
	22.8	23.8	23.1	24.0	24.2	22.9	23.8	23.2	24.0	24.3	
	22.8	23.6	23.0	23.9	24.1	22.8	23.7	23.1	23.9	24.2	
	22.7	23.5	23.0	23.7	24.0	22.8	23.6	23.1	23.8	24.1	
	22.6	23.4	22.9	23.7	23.9	22.7	23.5	23.0	23.7	24.0	
	22.6	23.3	22.9	23.6	23.9	22.7	23.4	23.0	23.7	24.0	
4H	2H	22.8	23.6	23.1	23.9	24.1	22.9	23.7	23.1	23.9	24.2
	3H	22.6	23.4	23.0	23.7	23.9	22.7	23.5	23.0	23.7	24.0
	4H	22.6	23.2	22.9	23.5	23.8	22.6	23.3	23.0	23.6	23.9
	6H	22.5	23.1	22.9	23.4	23.8	22.5	23.1	22.9	23.5	23.8
	8H	22.4	23.0	22.8	23.3	23.7	22.5	23.0	22.9	23.4	23.8
	12H	22.4	22.9	22.8	23.3	23.6	22.4	22.9	22.9	23.3	23.7
8H	4H	22.4	23.0	22.8	23.3	23.7	22.5	23.0	22.9	23.4	23.8
	6H	22.3	22.8	22.8	23.2	23.6	22.4	22.9	22.8	23.2	23.7
	8H	22.3	22.7	22.7	23.1	23.5	22.4	22.8	22.8	23.2	23.6
	12H	22.2	22.6	22.7	23.0	23.5	22.3	22.6	22.8	23.1	23.6
12H	4H	22.4	22.9	22.8	23.2	23.6	22.4	22.9	22.9	23.3	23.7
	6H	22.3	22.7	22.7	23.1	23.5	22.4	22.7	22.8	23.2	23.6
	8H	22.2	22.6	22.7	23.0	23.5	22.3	22.6	22.8	23.1	23.6
Variations with the observer position at spacings(CIE Pub.117):											
S = 1.0H	+ 2.6 / - 6.6					+ 2.7 / - 6.7					
1.5H	+ 4.1 / - 4.8					+ 4.2 / - 4.8					
2.0H	+ 4.8 / - 6.0					+ 4.9 / - 6.1					

CIE Pub.117, 1723 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 1.9$)
Area: 0.0038 m²

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-08-14

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:240.4V I:0.0636A P:14.9W PF:0.9739 Freq:49.99Hz UTHDi:0.18% ITHDi:8.14% KDisp:0.9802 Lamp Flux:1722.96x1 lm		
NAME: TR11-20-XX-01+白色防眩环 3000K RA90 60D 15W	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:

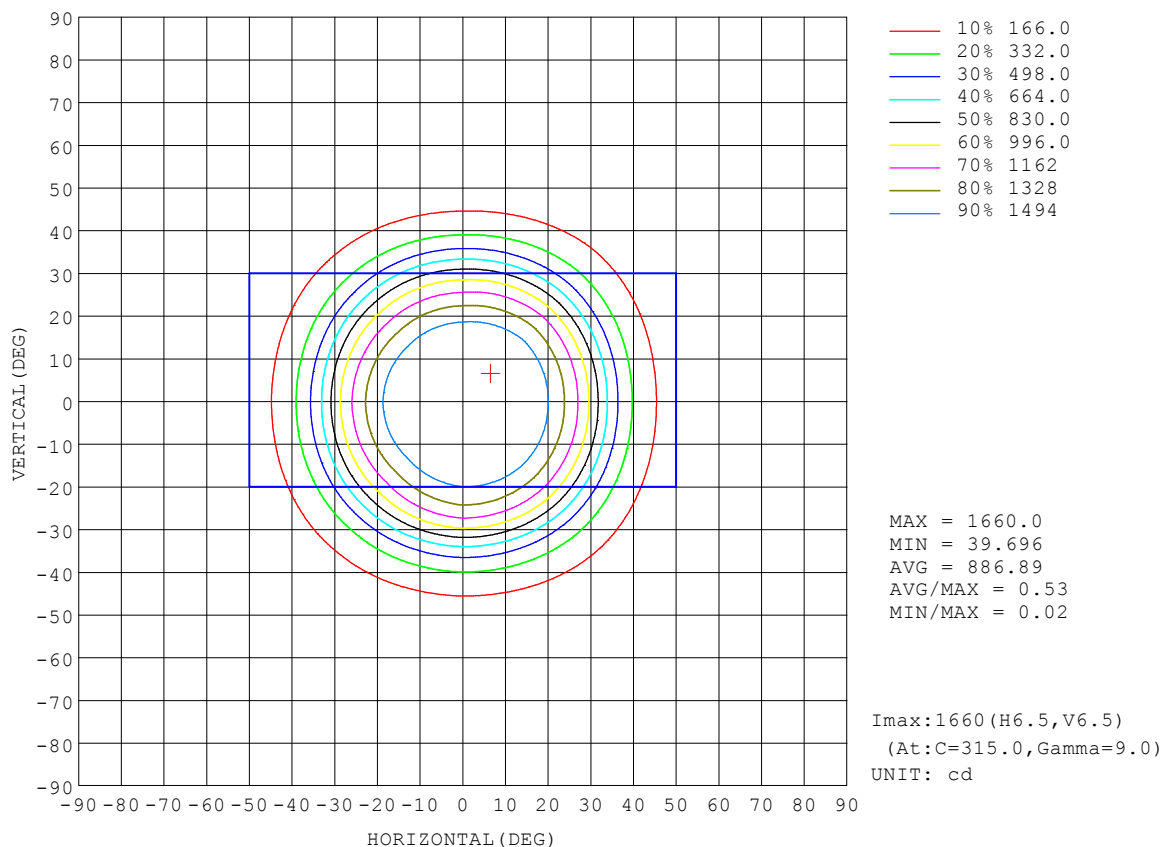
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	84	77	73	84	77	73	83	77	73	69
0.80	92	86	82	91	85	82	90	85	81	77
1.00	97	91	87	96	91	87	95	91	87	82
1.25	102	96	92	101	96	92	99	94	91	87
1.50	105	100	96	103	99	95	101	97	94	90
2.00	108	103	100	106	102	99	104	100	98	92
2.50	110	105	102	108	104	101	105	102	100	93
3.00	111	108	105	109	106	104	106	103	101	95
4.00	113	110	108	111	109	107	108	106	104	97
5.00	115	112	110	112	110	109	108	107	105	98
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2024-08-14

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 γ Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity: 65.0%
Test Distance: 3.090m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:240.4V I:0.0636A P:14.9W PF:0.9739 Freq:49.99Hz UTHDi:0.18% ITHDi:8.14% KDisp:0.9802 Lamp Flux:1722.96x1 lm		
NAME: TR11-20-XX-01+白色防眩环 3000K RA90 60D 15W	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:

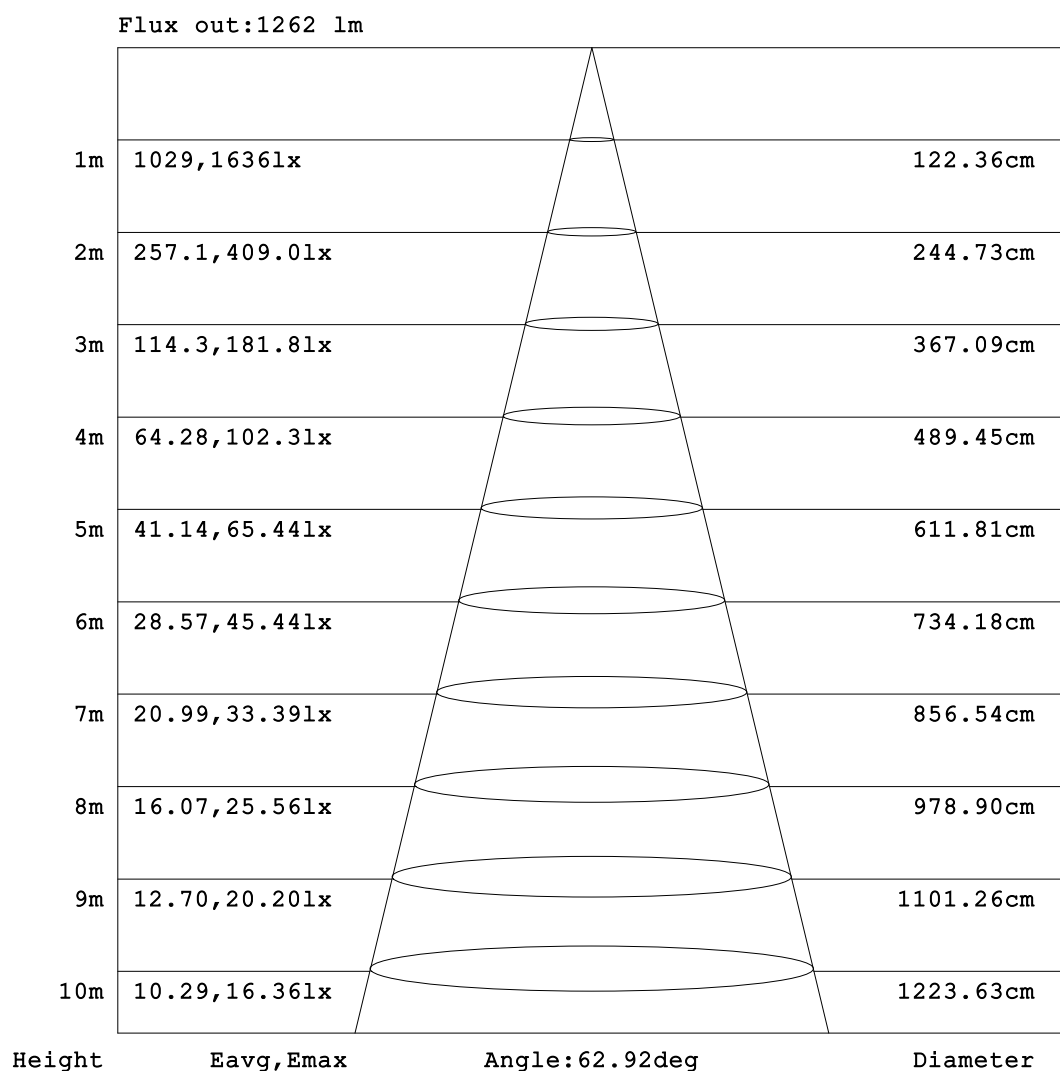


C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-08-14

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

AAI Figure

Test:U:240.4V I:0.0636A P:14.9W PF:0.9739 Freq:49.99Hz		
UTHDi:0.18% ITHDi:8.14% KDisp:0.9802 Lamp Flux:1722.96x1 lm		
NAME: TR11-20-XX-01+白色防眩环 3000K RA90 60D 15W	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:

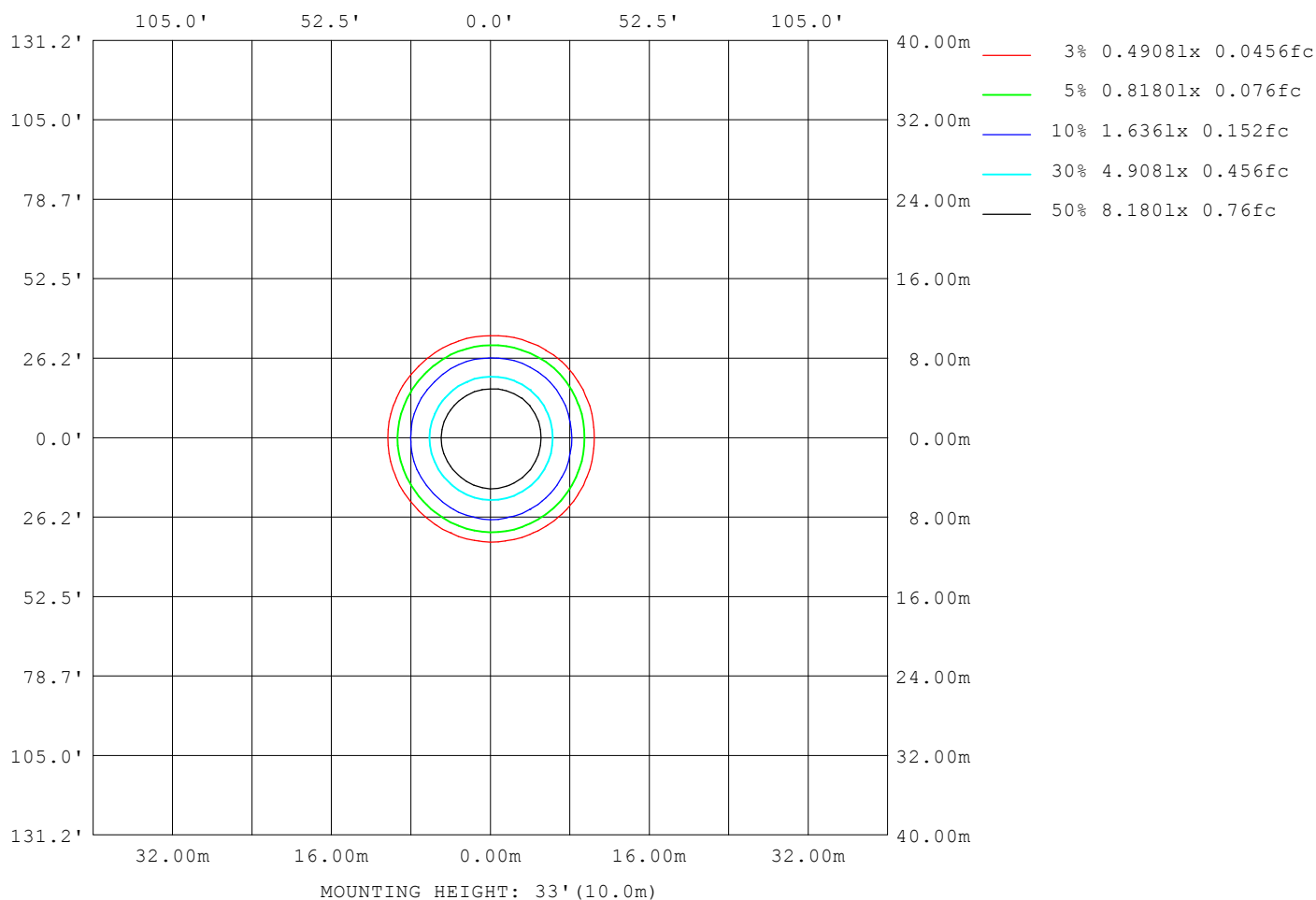


C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-08-14

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:240.4V I:0.0636A P:14.9W PF:0.9739 Freq:49.99Hz UTHDi:0.18% ITHDi:8.14% KDisp:0.9802 Lamp Flux:1722.96x1 lm		
NAME: TR11-20-XX-01+白色防眩环 3000K RA90 60D 15W	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2024-08-14

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity: 65.0%
Test Distance: 3.090m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:240.4V I:0.0636A P:14.9W PF:0.9739 Freq:49.99Hz UTHDi:0.18% ITHDi:8.14% KDisp:0.9802 Lamp Flux:1722.96x1 lm		
NAME: TR11-20-XX-01+白色防眩环 3000K RA90 60D 15W	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:

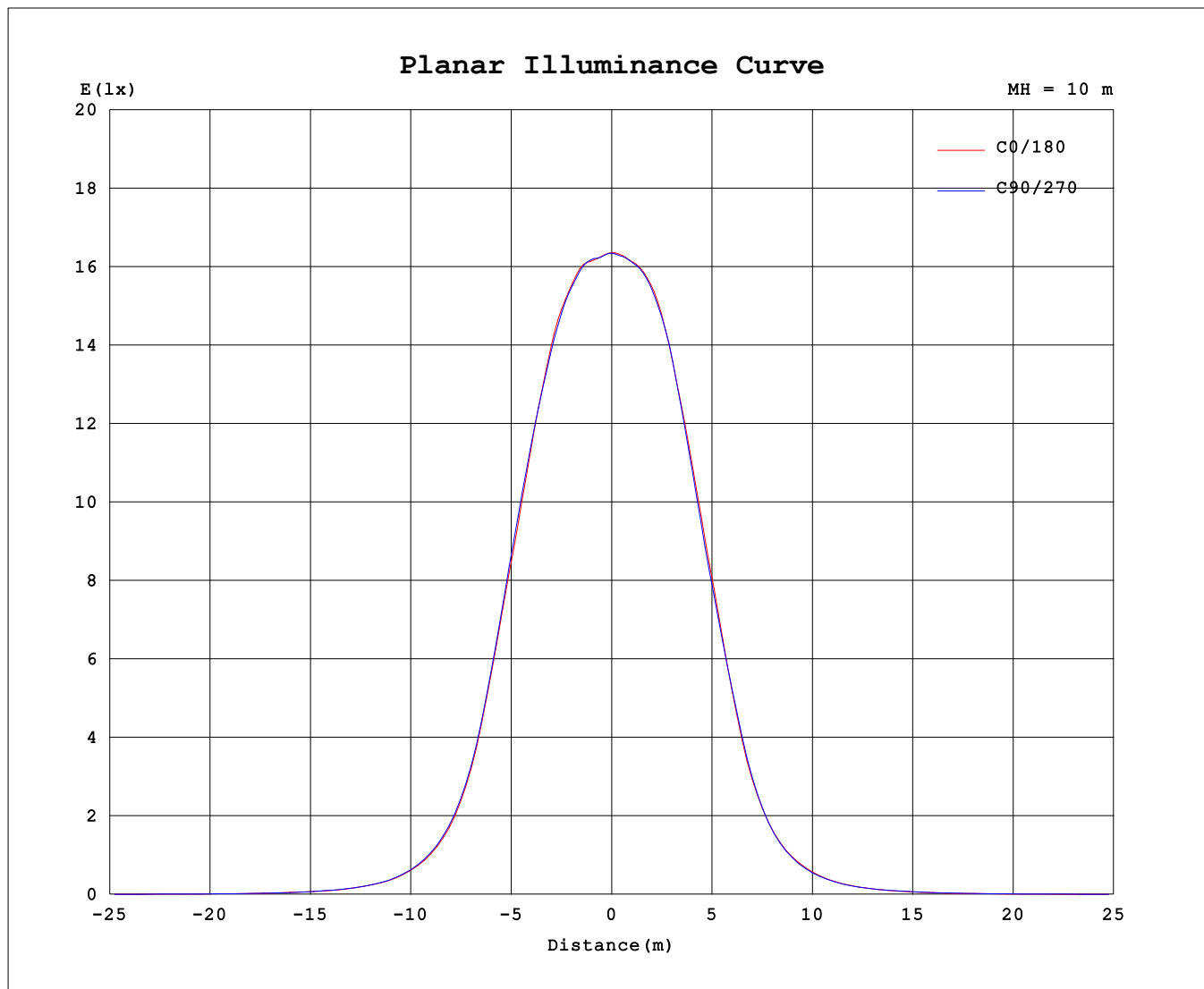
AvgL	cd/m2
L_0~180 (65) av	7608
L_0~180 (75) av	2478
L_0~180 (85) av	435
L_90~270 (65) av	8104
L_90~270 (75) av	2410
L_90~270 (85) av	412
L_45 (65) av	7716
L_45 (75) av	2422
L_45 (85) av	386

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-08-14

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2024-08-14

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity: 65.0%
Test Distance: 3.090m [K=1.0000]
Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

```

Photometric Data Table [cd]

G/C	0.0	45.0	90.0	135.0	180.0	225.0	270.0	315.0
0.0	1635	1635	1635	1635	1635	1635	1635	1635
3.0	1632	1630	1632	1633	1635	1634	1634	1635
6.0	1639	1644	1645	1633	1638	1637	1637	1646
9.0	1654	1659	1649	1634	1646	1643	1643	1661
12.0	1641	1650	1638	1618	1639	1636	1631	1648
15.0	1625	1631	1609	1581	1598	1595	1599	1626
18.0	1558	1565	1549	1511	1517	1499	1515	1559
21.0	1457	1471	1464	1404	1408	1376	1392	1459
24.0	1318	1339	1343	1257	1266	1228	1243	1322
27.0	1160	1188	1184	1099	1103	1064	1079	1165
30.0	963.1	988.2	976.8	904.9	896.4	873.3	896.0	964.3
33.0	730.0	757.2	742.0	682.6	668.8	659.1	683.9	736.2
36.0	519.0	539.7	531.8	482.5	477.2	463.4	483.4	525.8
39.0	360.8	377.4	373.9	333.1	333.1	319.6	331.2	367.2
42.0	251.3	260.8	260.1	230.7	232.2	220.0	228.9	255.1
45.0	173.6	180.8	179.0	159.5	162.0	151.9	156.5	176.5
48.0	119.3	123.9	121.5	108.4	110.7	103.9	107.7	121.0
51.0	82.05	84.67	83.53	73.95	75.83	72.08	74.37	83.67
54.0	55.91	57.63	56.71	49.71	51.45	50.38	52.48	57.99
57.0	39.09	40.07	39.84	35.06	35.82	36.19	38.03	40.78
60.0	25.21	25.44	26.20	22.86	23.01	24.02	25.93	26.75
63.0	16.96	16.48	17.16	14.94	15.02	15.81	17.20	17.82
66.0	11.34	10.96	11.27	10.04	10.18	10.57	11.47	11.98
69.0	8.073	7.749	7.602	7.204	7.357	7.532	7.858	8.414
72.0	5.609	4.838	4.299	4.156	4.105	4.925	5.378	5.794
75.0	2.584	2.325	2.153	2.267	2.291	2.431	2.587	2.505
78.0	2.015	1.785	1.648	1.795	1.807	1.924	2.077	1.937
81.0	1.381	1.211	1.091	1.138	1.158	1.268	1.409	1.352
84.0	0.5032	0.2925	0.2238	0.1808	0.1982	0.3262	0.4602	0.4841
87.0	0.0930	0.0683	0.0759	0.0569	0.0718	0.0706	0.0877	0.0780
90.0	0.0376	0.0283	0.0408	0.0321	0.0305	0.0267	0.0318	0.0273

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2024-08-14

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
 Humidity: 65.0%
 Test Distance: 3.090m [K=1.0000]
 Remarks: