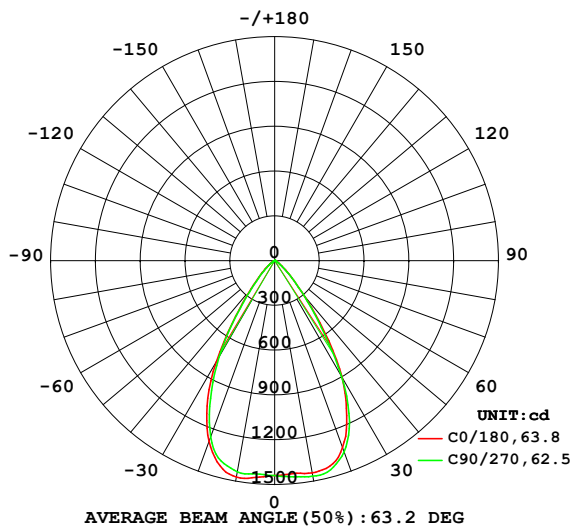


LUMINAIRE PHOTOMETRIC TEST REPORT

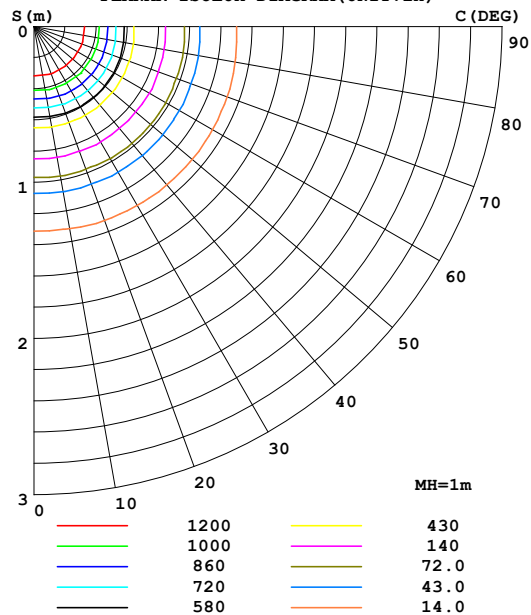
Test:U:240.5V I:0.0830A P:19.7W PF:0.9853 Freq:49.99Hz		
UTHDi:0.17% ITHDi:5.72% KDisp:0.9870 Lamp Flux:1531.7x1 lm		
NAME: FUSION GT-TR01-AHD-020-COB-01DW 3000K RA90 60D TYPE:		WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 77.87 lm/W
MODEL		I _{max} (cd)	1475	S/MH(C0/180)		0.91
NOMINAL POWER(W)	20	LOR(%)	100.0	S/MH(C90/270)		0.90
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	1531.7	η UP,DN(C0-180)		0.0,52.7
NOMINAL FLUX(lm)	1531.7	CIE CLASS	DIRECT	η UP,DN(C180-360)		0.0,47.3
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM		0.75
TEST VOLTAGE(V)	240.42	η down(%)	100.0	CIBSE SHR MAX		0.95

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



PLANAR ISOLUX DIAGRAM(UNIT:lx)



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-11-05

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	1444	1457	1467	1472	1472	1456	1437	1433	0- 10	138.3	138.3	9.03,9.03
20	1330	1369	1362	1333	1288	1259	1254	1289	10- 20	396.9	535.2	34.9,34.9
30	905.2	959.8	897.4	834.6	782.6	744.4	748.2	801.6	20- 30	500.7	1036	67.6,67.6
40	313.4	337.2	307.6	275.2	244.9	235.0	235.4	266.6	30- 40	323.4	1359	88.7,88.7
50	88.43	93.78	84.48	75.90	68.48	64.56	63.15	71.59	40- 50	119.2	1479	96.5,96.5
60	25.68	26.47	23.12	20.67	18.52	17.77	19.09	20.69	50- 60	38.34	1517	99,99
70	6.897	7.039	6.319	5.631	5.133	5.301	5.726	6.080	60- 70	11.57	1528	99.8,99.8
80	1.458	1.359	1.173	1.006	0.9486	0.9995	1.186	1.367	70- 80	2.836	1531	100,100
90	0.0477	0.0350	0.0424	0.0347	0.0379	0.0344	0.0399	0.0351	80- 90	0.4125	1532	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): 1435.1 lm

%lum = 93.7%

%lamp = 93.7%

Conical surface Flux(120deg): 1516.9 lm

%lum = 99.0%

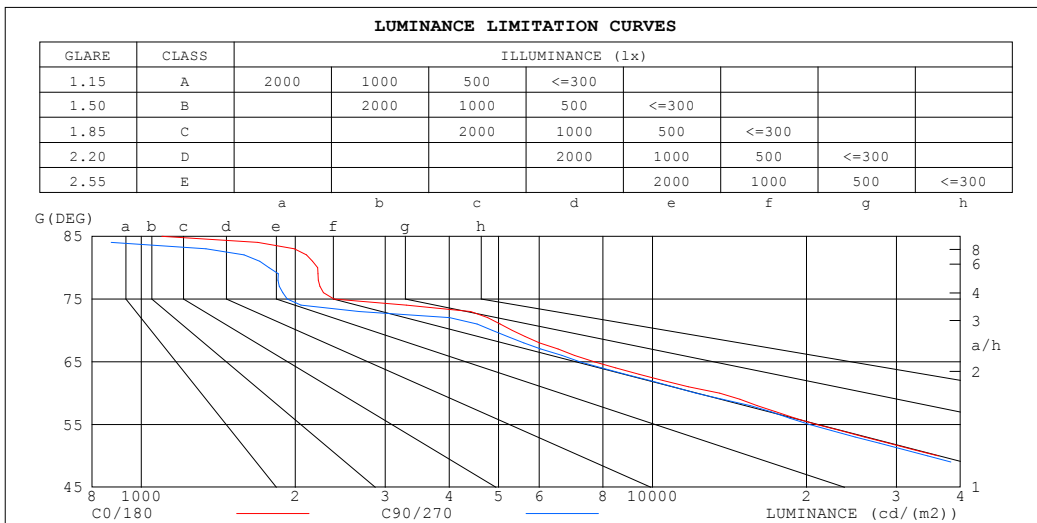
%lamp = 99.0%

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2024-11-05

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:240.5V I:0.0830A P:19.7W PF:0.9853 Freq:49.99Hz		
UTHDi:0.17% ITHDi:5.72% KDisp:0.9870 Lamp Flux:1531.7x1 lm		
NAME: FUSION GT-TR01-AHD-020-COB-01DW 3000K RA90 60D TYPE:	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:



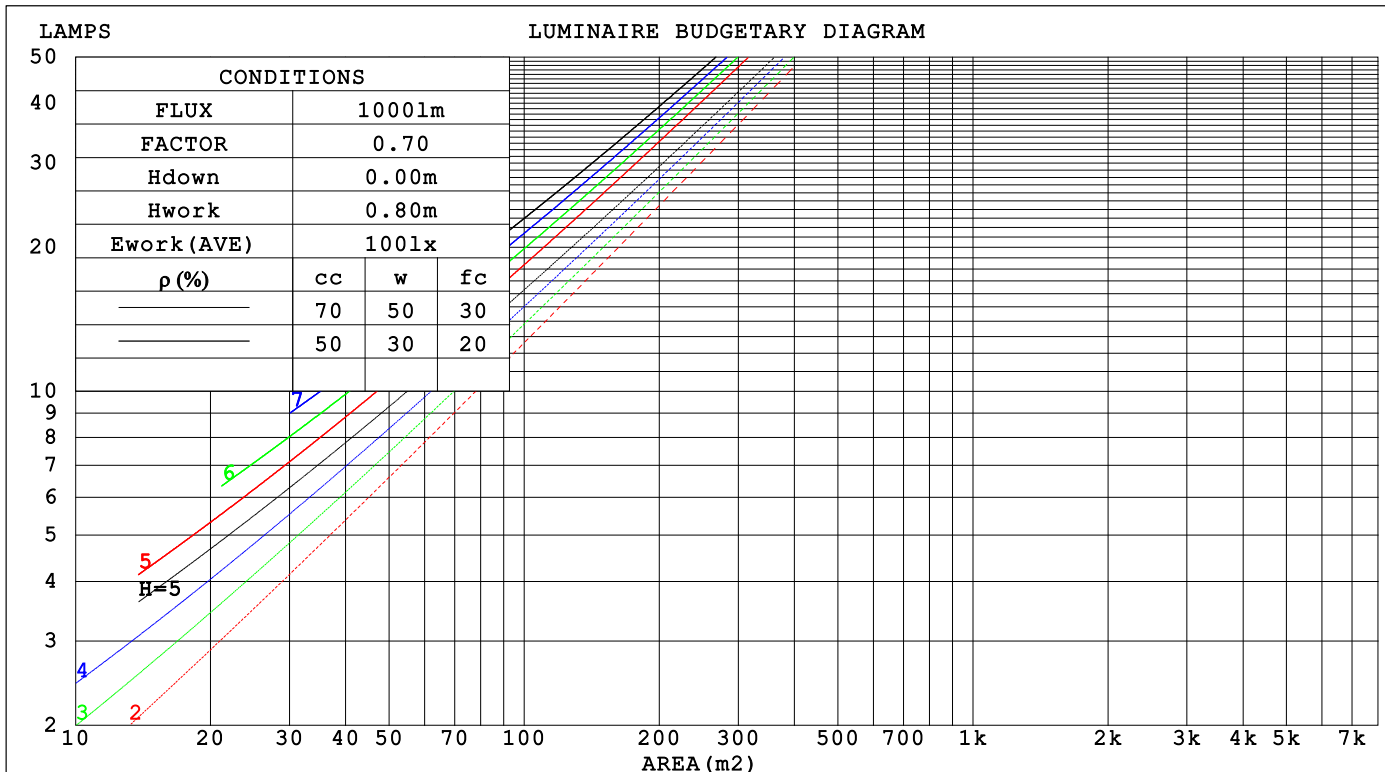
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2024-11-05

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:240.5V I:0.0830A P:19.7W PF:0.9853 Freq:49.99Hz		
UTHDi:0.17% ITHDi:5.72% KDisp:0.9870 Lamp Flux:1531.7x1 lm		
NAME: FUSION GT-TR01-AHD-020-COB-01DW 3000K RA90 60D TYPE:		WEIGHT:
SPEC.:		SERIAL No.:
MFR.: Norming lighting		Shielding Angle:
DIM.:		
SUR.: 70mm		

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:2024-11-05

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:240.5V I:0.0830A P:19.7W PF:0.9853 Freq:49.99Hz		
UTHDi:0.17% ITHDi:5.72% KDisp:0.9870 Lamp Flux:1531.7x1 lm		
NAME: FUSION GT-TR01-AHD-020-COB-01DW 3000K RA90 60D 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	.165	.095	.030	.154	.089	.028	.143	.083	.027															
2.0	.178	.098	.030	.172	.095	.029	.162	.090	.028	.152	.085	.027	.143	.081	.025															
3.0	.170	.091	.027	.165	.088	.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	.022															
5.0	.155	.079	.023	.151	.077	.023	.144	.075	.022	.138	.073	.022	.132	.070	.021															
6.0	.148	.074	.021	.144	.073	.021	.138	.071	.021	.132	.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	.040	.017	.015	.013	
3.0	.145	.114	.088	.125	.098	.077	.085	.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:2024-11-05

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:240.5V I:0.0830A P:19.7W PF:0.9853 Freq:49.99Hz UTHDi:0.17% ITHDi:5.72% KDisp:0.9870Lamp Flux:1531.7x1 lm										
NAME: FUSION GT-TR01-AHD-020-COB-01DW 3000K RA90 60D 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	23.3	24.3	23.5	24.5	24.6	23.1	24.1	23.4	24.3	24.5
3H	23.2	24.1	23.4	24.3	24.5	23.0	23.9	23.3	24.1	24.3
4H	23.1	23.9	23.4	24.2	24.4	22.9	23.8	23.2	24.0	24.2
6H	23.0	23.8	23.3	24.0	24.3	22.8	23.6	23.1	23.9	24.1
8H	22.9	23.7	23.3	24.0	24.2	22.8	23.6	23.1	23.8	24.1
12H	22.9	23.6	23.2	23.9	24.2	22.7	23.5	23.1	23.7	24.0
4H 2H	23.1	23.9	23.4	24.2	24.4	22.9	23.8	23.2	24.0	24.2
3H	23.0	23.7	23.3	24.0	24.2	22.8	23.5	23.1	23.8	24.1
4H	22.9	23.5	23.2	23.8	24.2	22.7	23.4	23.1	23.7	24.0
6H	22.8	23.4	23.2	23.7	24.1	22.6	23.2	23.0	23.5	23.9
8H	22.7	23.3	23.1	23.6	24.0	22.6	23.1	23.0	23.5	23.8
12H	22.7	23.2	23.1	23.6	24.0	22.5	23.0	22.9	23.4	23.8
8H 4H	22.7	23.3	23.1	23.6	24.0	22.6	23.1	23.0	23.5	23.8
6H	22.6	23.1	23.1	23.5	23.9	22.5	22.9	22.9	23.3	23.7
8H	22.6	23.0	23.0	23.4	23.8	22.4	22.8	22.9	23.2	23.7
12H	22.5	22.9	23.0	23.3	23.8	22.4	22.7	22.8	23.2	23.6
12H 4H	22.7	23.2	23.1	23.6	23.9	22.5	23.0	22.9	23.4	23.8
6H	22.6	23.0	23.0	23.4	23.8	22.4	22.8	22.9	23.2	23.7
8H	22.5	22.9	23.0	23.3	23.8	22.4	22.7	22.8	23.2	23.6
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 2.6 / - 6.9					+ 2.5 / - 6.9				
1.5H	+ 4.2 / - 5.1					+ 4.0 / - 5.0				
2.0H	+ 4.7 / - 5.7					+ 4.8 / - 5.8				

CIE Pub.117, 1532 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 1.5)
Area: 0.0038 m2

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-11-05

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:240.5V I:0.0830A P:19.7W PF:0.9853 Freq:49.99Hz		
UTHDi:0.17% ITHDi:5.72% KDisp:0.9870 Lamp Flux:1531.7x1 lm		
NAME: FUSION GT-TR01-AHD-020-COB-01DW 3000K RA90 60D TYPE:		WEIGHT:
SPEC.:		SERIAL No.:
MFR.: Norming lighting		Shielding Angle:

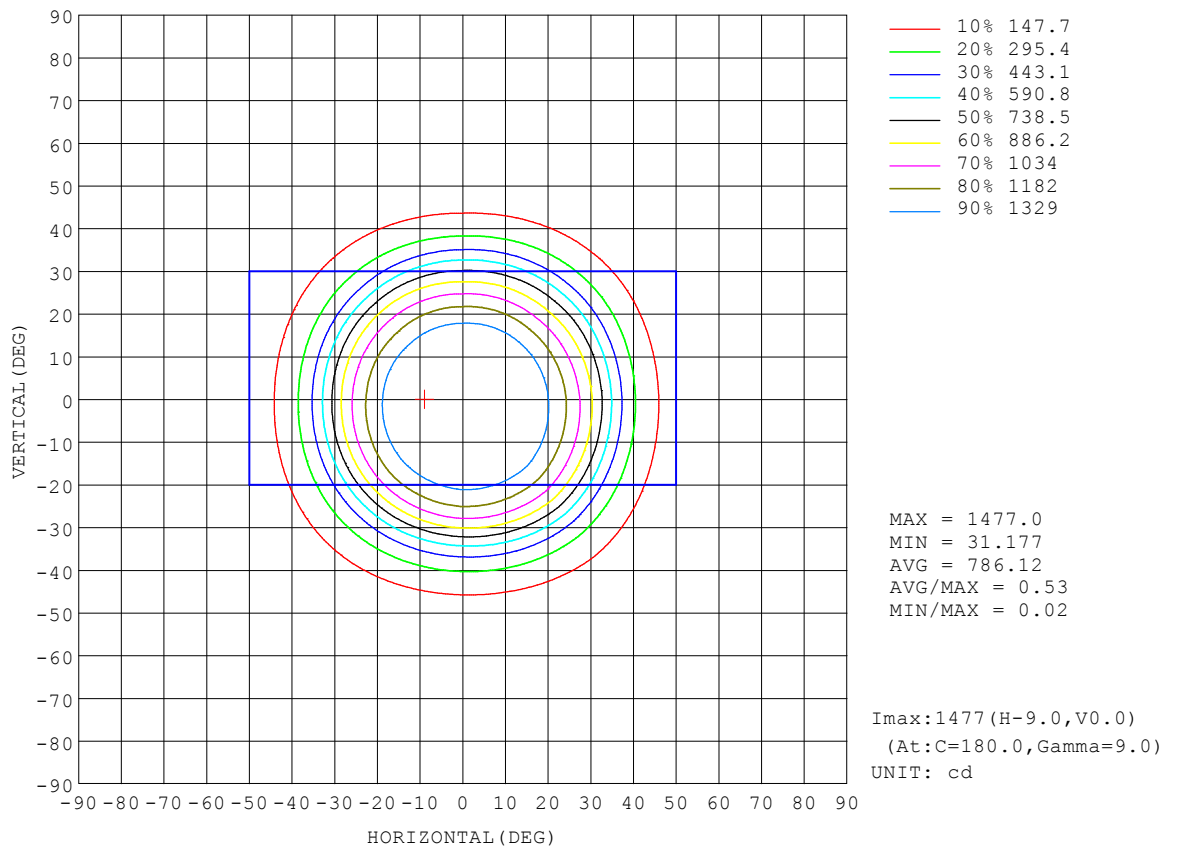
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	84	77	73	84	77	73	83	77	73	69
0.80	92	86	82	92	86	82	90	85	81	77
1.00	97	91	87	97	91	87	95	91	87	83
1.25	102	96	93	101	96	92	99	94	91	87
1.50	105	100	96	103	99	96	101	97	95	90
2.00	108	103	100	106	102	99	104	100	98	92
2.50	110	106	102	108	104	101	105	102	100	94
3.00	111	108	105	109	106	104	106	104	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:2024-11-05

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:

ISOCANDELA DIAGRAM

Test:U:240.5V I:0.0830A P:19.7W PF:0.9853 Freq:49.99Hz		
UTHDi:0.17% ITHDi:5.72% KDisp:0.9870 Lamp Flux:1531.7x1 lm		
NAME: FUSION GT-TR01-AHD-020-COB-01DW 3000K RA90 60D TYPE:	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:

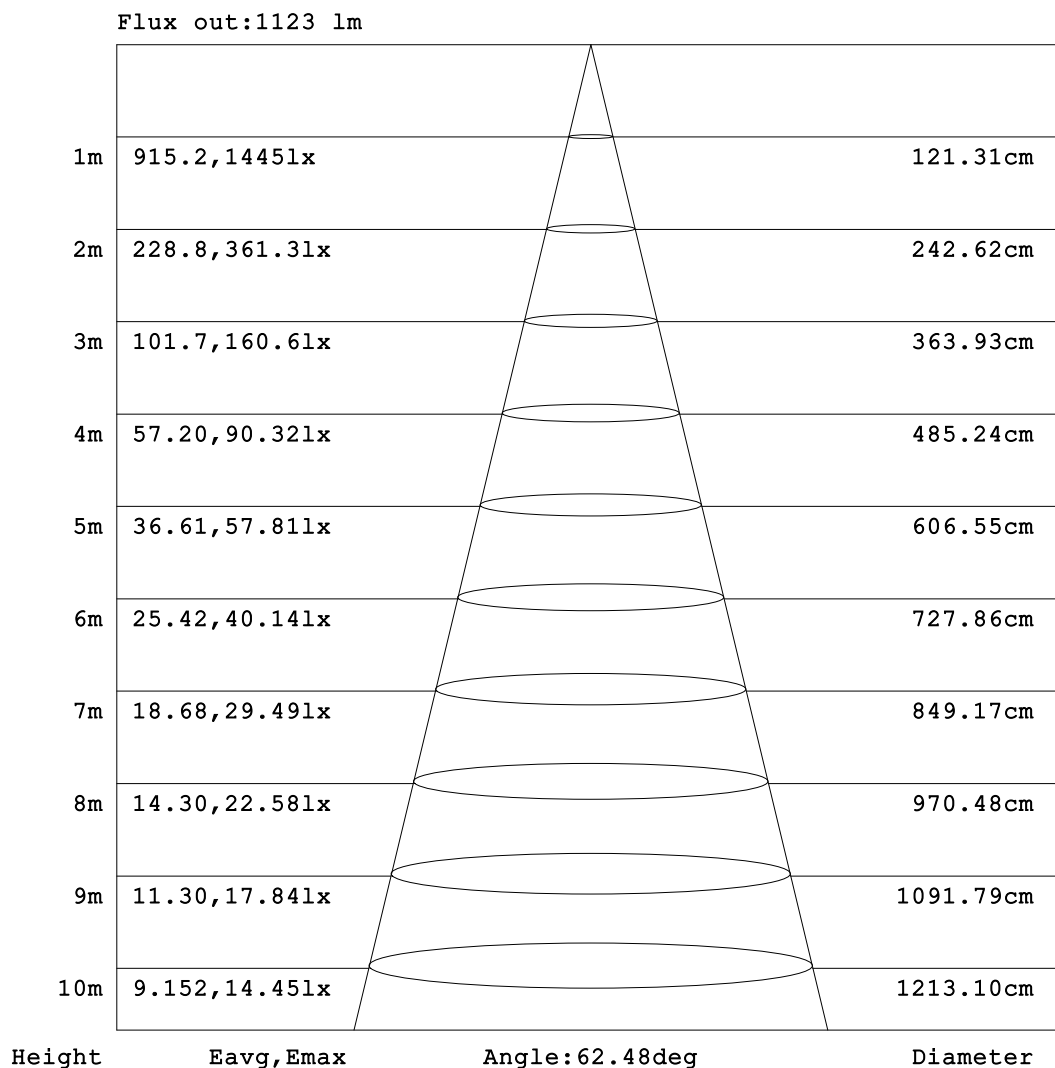


C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2024-11-05

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:240.5V I:0.0830A P:19.7W PF:0.9853 Freq:49.99Hz		
UTHDi:0.17% ITHDi:5.72% KDisp:0.9870		Lamp Flux:1531.7x1 lm
NAME: FUSION GT-TR01-AHD-020-COB-01DW 3000K RA90 60D TYPE:	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:



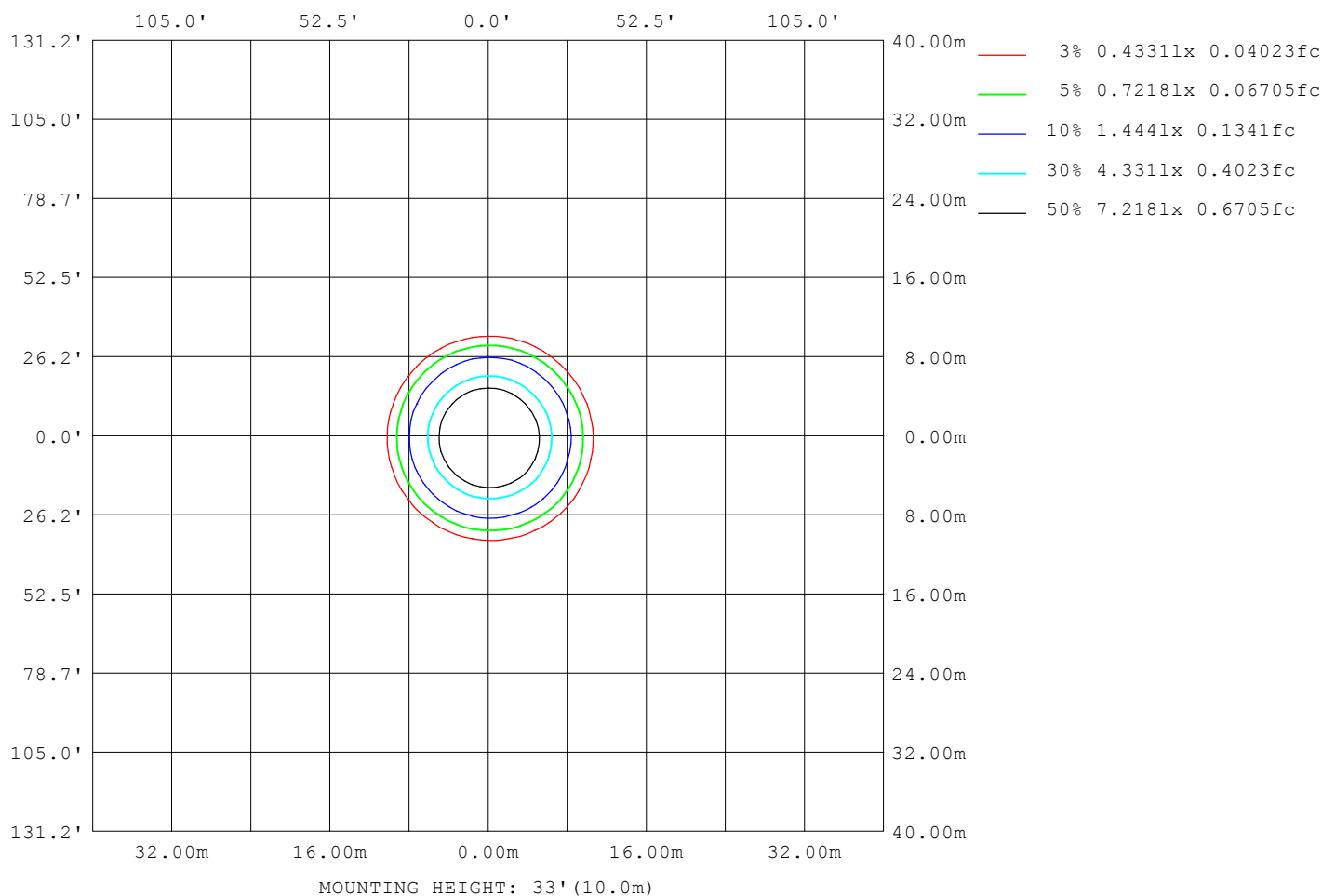
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2024-11-05

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:240.5V I:0.0830A P:19.7W PF:0.9853 Freq:49.99Hz		
UTHDi:0.17% ITHDi:5.72% KDisp:0.9870		Lamp Flux:1531.7x1 lm
NAME: FUSION GT-TR01-AHD-020-COB-01DW 3000K RA90 60D 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:2024-11-05

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:240.5V I:0.0830A P:19.7W PF:0.9853 Freq:49.99Hz		
UTHDi:0.17% ITHDi:5.72% KDisp:0.9870		Lamp Flux:1531.7x1 lm
NAME: FUSION GT-TR01-AHD-020-COB-01DW 3000K RA90 60D TYPE:		WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:

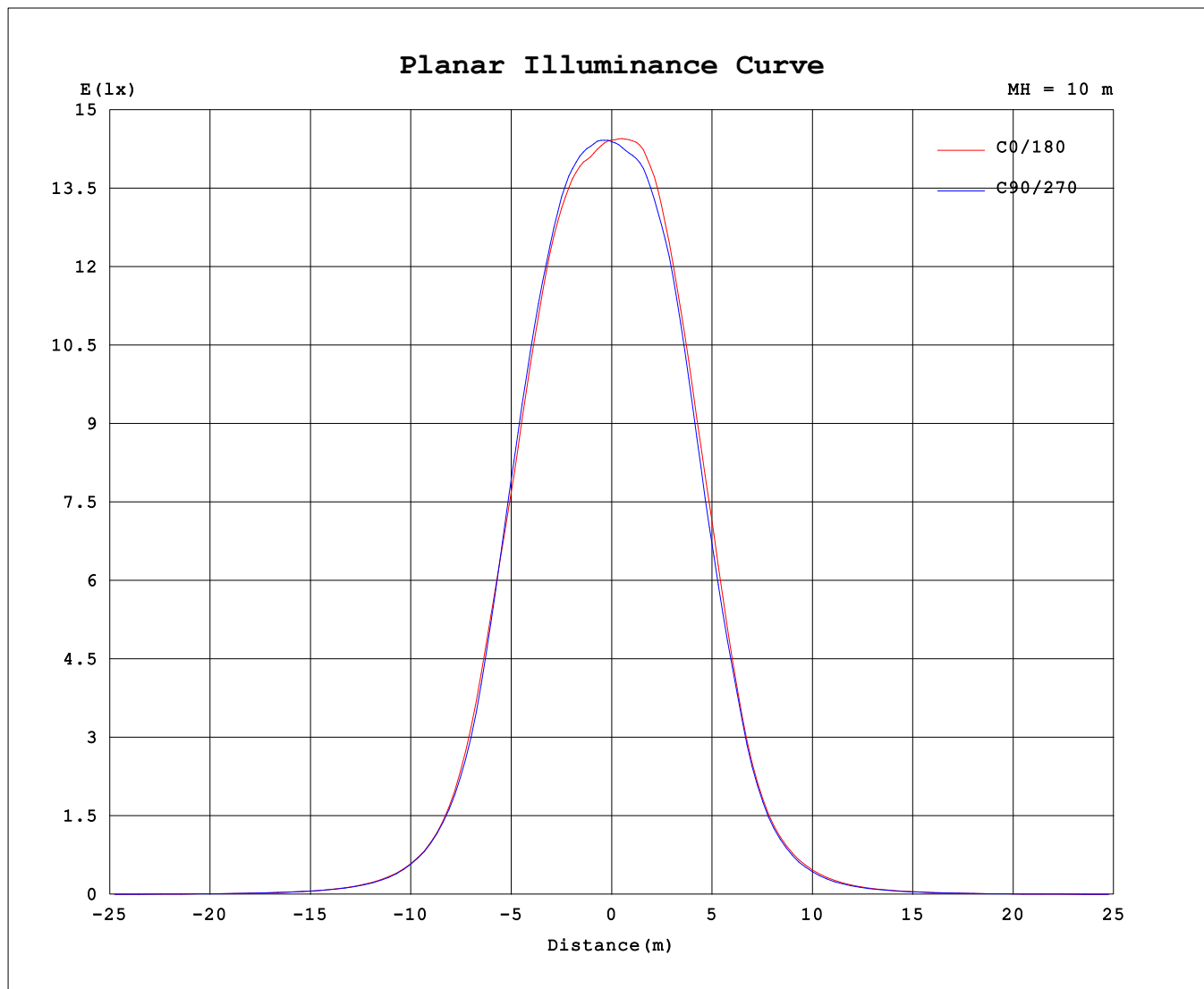
AvgL	cd/m2
L_0~180 (65) av	6737
L_0~180 (75) av	2052
L_0~180 (85) av	702
L_90~270 (65) av	6660
L_90~270 (75) av	1968
L_90~270 (85) av	401
L_45 (65) av	6676
L_45 (75) av	2011
L_45 (85) av	501

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-11-05

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: 2024-11-05

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	1440	1440	1440	1440	1440	1440	1440	1440
3.0	1435	1443	1448	1450	1449	1441	1435	1434
6.0	1431	1447	1455	1457	1462	1451	1437	1427
9.0	1442	1458	1465	1470	1475	1459	1441	1434
12.0	1441	1452	1468	1467	1463	1447	1420	1424
15.0	1426	1436	1449	1436	1421	1406	1390	1402
18.0	1384	1402	1404	1383	1351	1326	1325	1350
21.0	1301	1346	1335	1300	1251	1217	1213	1251
24.0	1191	1245	1230	1186	1120	1079	1070	1111
27.0	1053	1118	1086	1029	971.5	930.3	914.7	962.4
30.0	905.2	959.8	897.4	834.6	782.6	744.4	748.2	801.6
33.0	714.9	758.2	680.4	618.9	579.8	546.6	567.5	621.8
36.0	517.8	550.5	489.9	441.4	403.5	381.9	393.1	439.5
39.0	356.5	382.1	347.1	310.0	277.2	265.7	267.5	303.3
42.0	242.8	261.1	239.5	216.9	192.0	183.2	182.0	205.3
45.0	165.8	179.8	163.5	147.8	132.5	124.3	122.5	138.6
48.0	113.6	121.9	109.4	99.27	89.52	84.18	81.88	94.00
51.0	77.10	82.05	74.10	66.59	60.11	56.61	55.68	62.66
54.0	52.08	55.39	50.13	45.94	41.16	38.83	38.74	42.66
57.0	36.02	38.25	35.28	32.02	28.76	27.42	27.98	30.02
60.0	25.68	26.47	23.12	20.67	18.52	17.77	19.09	20.69
63.0	16.20	17.14	15.27	13.42	12.07	11.87	12.58	13.53
66.0	10.85	11.34	10.28	9.031	8.241	8.221	8.749	9.269
69.0	7.655	7.854	7.088	6.351	5.825	5.940	6.347	6.716
72.0	5.577	5.640	4.712	3.220	2.463	2.885	4.315	4.945
75.0	2.339	2.196	1.897	1.726	1.697	1.780	1.973	2.208
78.0	1.750	1.631	1.463	1.329	1.282	1.331	1.525	1.682
81.0	1.283	1.186	1.013	0.8368	0.7680	0.8203	1.010	1.188
84.0	0.6696	0.5840	0.3471	0.1390	0.1267	0.1259	0.2175	0.4845
87.0	0.1133	0.0906	0.0859	0.0572	0.0586	0.0516	0.0778	0.0842
90.0	0.0477	0.0350	0.0424	0.0347	0.0379	0.0344	0.0399	0.0351

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-11-05

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: