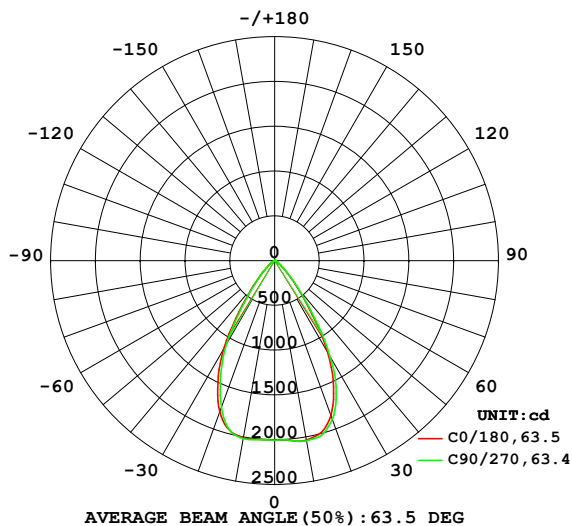


LUMINAIRE PHOTOMETRIC TEST REPORT

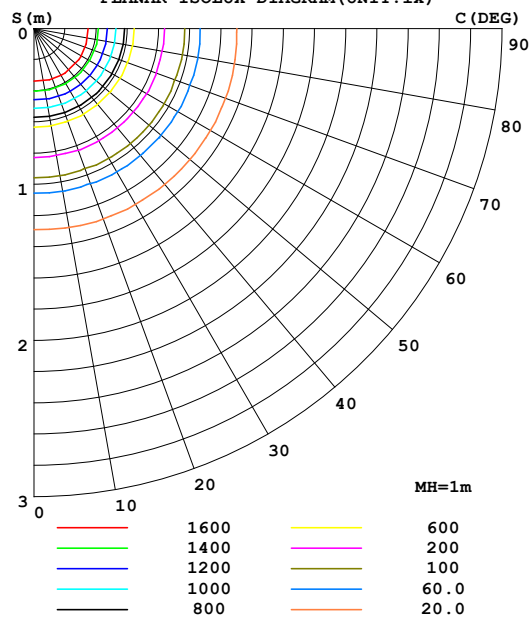
Test:U:240.5V I:0.0845A P:20.0W PF:0.9851 Freq:49.99Hz		
UTHDi:0.17% ITHDi:5.84% KDisp:0.9869 Lamp Flux:2135.75x1 lm		
NAME: FUSION GT-TR01-AHD-020-COB-01SC 2700K RA90 60D TYPE:		WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 106.66 lm/W			
MODEL		Imax (cd)	2042	S/MH(C0/180)	0.93
NOMINAL POWER(W)	20	LOR(%)	100.0	S/MH(C90/270)	0.91
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	2135.7	η UP,DN(C0-180)	0.0,52.0
NOMINAL FLUX(lm)	2135.75	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,48.0
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:2024-11-06

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	2035	2036	2042	2022	2010	2012	2017	2021	0- 10	192.6	192.6	9.02,9.02
20	1839	1883	1884	1857	1795	1754	1741	1780	10- 20	552.2	744.8	34.9,34.9
30	1189	1232	1250	1221	1137	1072	1072	1120	20- 30	694.7	1439	67.4,67.4
40	403.1	423.7	426.6	415.7	372.5	350.9	347.6	371.7	30- 40	452.0	1891	88.6,88.6
50	113.0	122.4	119.8	111.8	101.5	98.55	97.95	100.9	40- 50	168.5	2060	96.5,96.5
60	32.09	33.57	33.03	30.87	27.35	27.48	29.23	29.09	50- 60	54.73	2115	99,99
70	9.238	9.203	8.765	8.574	8.021	7.913	8.154	8.467	60- 70	16.46	2131	99.8,99.8
80	1.784	1.756	1.663	1.559	1.554	1.580	1.698	1.738	70- 80	4.002	2135	100,100
90	0.0571	0.0447	0.0624	0.0454	0.0513	0.0498	0.0550	0.0476	80- 90	0.5703	2136	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): 1998.3 lm

%lum = 93.6%

%lamp = 93.6%

Conical surface Flux(120deg): 2114.7 lm

%lum = 99.0%

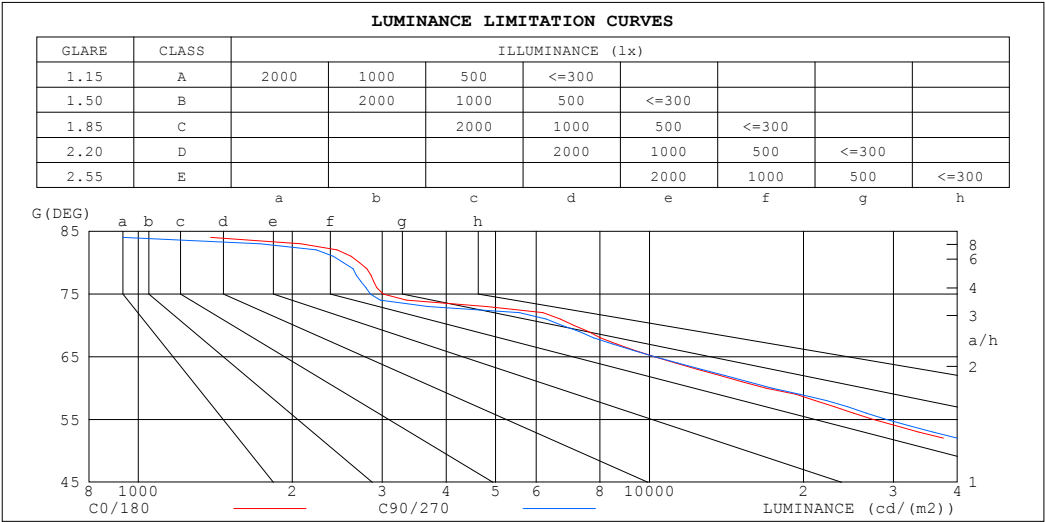
%lamp = 99.0%

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2024-11-06

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:0.0845A P:20.0W PF:0.9851 Freq:49.99Hz		
UTHDi:0.17% ITHDi:5.84% KDisp:0.9869 Lamp Flux:2135.75x1 lm		
NAME: FUSION GT-TR01-AHD-020-COB-01SC 2700K RA90 60D TYPE:		WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	642	546
80	2706	2520
75	3013	2843
70	7117	6742
65	10232	10248
60	16908	17380
55	27427	29120
50	46326	49016
45	80954	85239

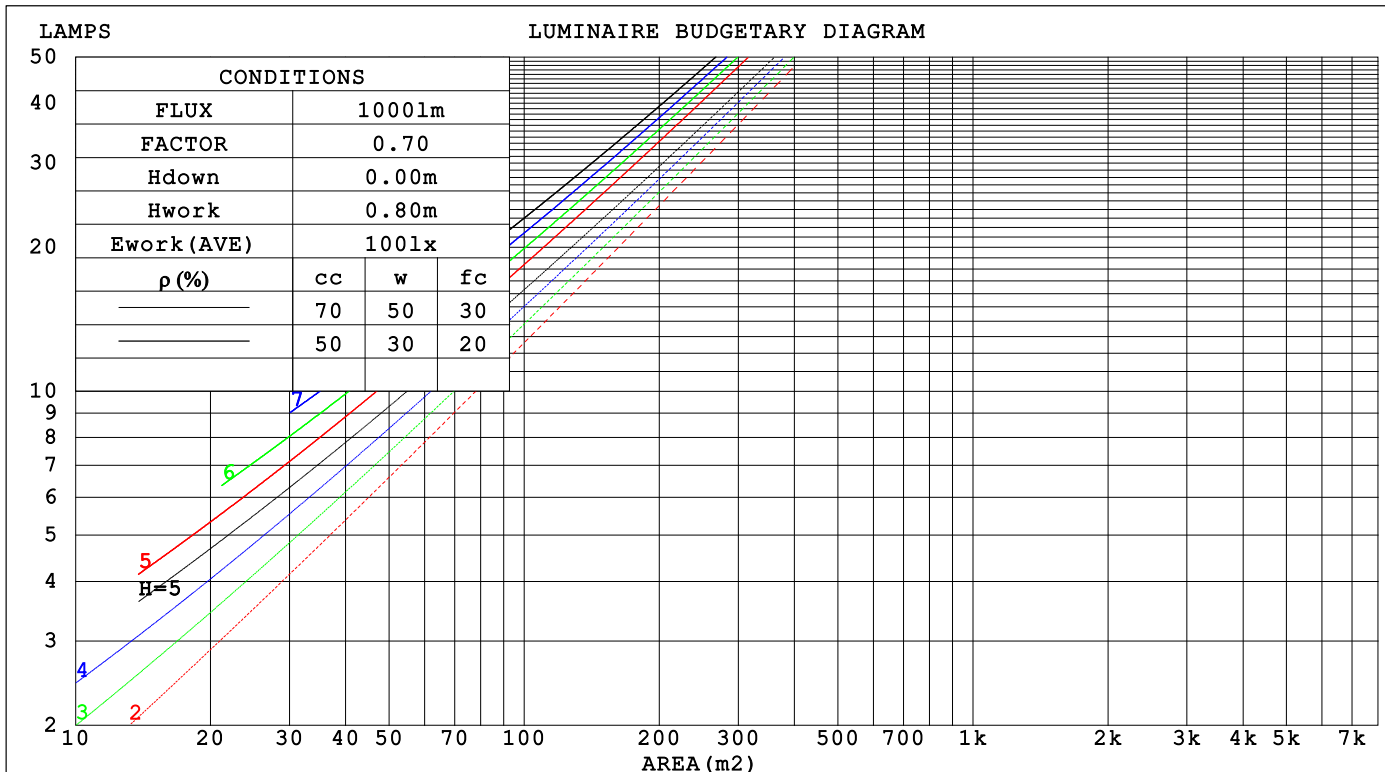
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-11-06

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:0.0845A P:20.0W PF:0.9851 Freq:49.99Hz		
UTHDi:0.17% ITHDi:5.84% KDisp:0.9869 Lamp Flux:2135.75x1 lm		
NAME: FUSION GT-TR01-AHD-020-COB-01SC 2700K 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															



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-11-06

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:0.0845A P:20.0W PF:0.9851 Freq:49.99Hz		
UTHDi:0.17% ITHDi:5.84% KDisp:0.9869 Lamp Flux:2135.75x1 lm		
NAME: FUSION GT-TR01-AHD-020-COB-01SC 2700K 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	.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	.026		
3.0	.170	.091	.027	.165	.089	.027	.156	.085	.026	.148	.081	.025	.140	.078	.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	.145	.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	.119	.061	.018		
9.0	.129	.062	.017	.127	.062	.017	.122	.061	.017	.118	.059	.017	.114	.058	.017		
10.0	.124	.059	.016	.122	.059	.016	.118	.058	.016	.114	.057	.016	.111	.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	.068	.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	.030	.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:2024-11-06

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:0.0845A P:20.0W PF:0.9851 Freq:49.99Hz UTHDi:0.17% ITHDi:5.84% KDisp:0.9869 Lamp Flux:2135.75x1 lm										
NAME: FUSION GT-TR01-AHD-020-COB-01SC 2700K 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	23.8	24.8	24.1	25.0	25.2	24.0	25.0	24.3	25.2	25.4
3H	23.7	24.6	24.0	24.8	25.0	23.9	24.8	24.2	25.0	25.2
4H	23.6	24.5	23.9	24.7	24.9	23.8	24.7	24.1	24.9	25.1
6H	23.5	24.3	23.8	24.6	24.8	23.7	24.5	24.0	24.8	25.0
8H	23.5	24.3	23.8	24.5	24.8	23.7	24.5	24.0	24.7	25.0
12H	23.4	24.2	23.8	24.4	24.7	23.6	24.4	24.0	24.6	24.9
4H 2H	23.6	24.5	23.9	24.7	24.9	23.8	24.7	24.1	24.9	25.1
3H	23.5	24.2	23.8	24.5	24.8	23.7	24.4	24.0	24.7	25.0
4H	23.4	24.1	23.8	24.4	24.7	23.6	24.3	24.0	24.6	24.9
6H	23.3	23.9	23.7	24.3	24.6	23.5	24.1	23.9	24.4	24.8
8H	23.3	23.8	23.7	24.2	24.5	23.5	24.0	23.9	24.4	24.7
12H	23.2	23.7	23.6	24.1	24.5	23.4	23.9	23.8	24.3	24.7
8H 4H	23.3	23.8	23.7	24.2	24.5	23.5	24.0	23.9	24.4	24.7
6H	23.2	23.6	23.6	24.0	24.4	23.4	23.8	23.8	24.2	24.6
8H	23.1	23.5	23.6	24.0	24.4	23.3	23.7	23.8	24.1	24.6
12H	23.1	23.4	23.6	23.9	24.3	23.3	23.6	23.7	24.1	24.5
12H 4H	23.2	23.7	23.6	24.1	24.5	23.4	23.9	23.8	24.3	24.7
6H	23.1	23.5	23.6	23.9	24.4	23.3	23.7	23.8	24.1	24.6
8H	23.1	23.4	23.6	23.9	24.3	23.3	23.6	23.7	24.1	24.5
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 2.6 / - 6.8					+ 2.7 / - 6.8				
1.5H	+ 4.1 / - 4.9					+ 4.2 / - 5.0				
2.0H	+ 4.8 / - 5.6					+ 4.9 / - 5.9				

CIE Pub.117, 2136 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 2.6$)
Area: 0.0038 m²

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-11-06

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:0.0845A P:20.0W PF:0.9851 Freq:49.99Hz		
UTHDi:0.17% ITHDi:5.84% KDisp:0.9869 Lamp Flux:2135.75x1 lm		
NAME: FUSION GT-TR01-AHD-020-COB-01SC 2700K RA90 60D TYPE:		WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:

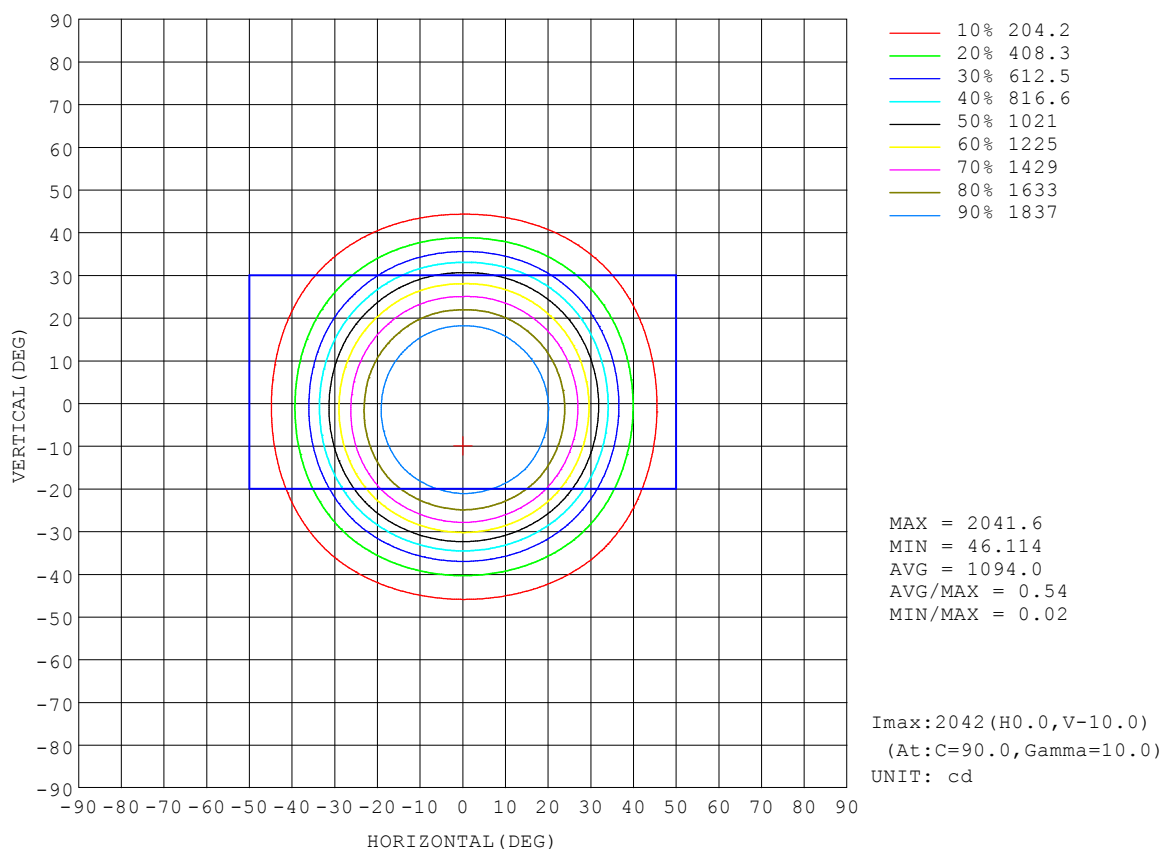
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	84	77	73	84	77	73	83	77	73	69
0.80	92	86	82	92	85	82	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	96	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	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:2024-11-06

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:0.0845A P:20.0W PF:0.9851 Freq:49.99Hz UTHDi:0.17% ITHDi:5.84% KDisp:0.9869 Lamp Flux:2135.75x1 lm		
NAME: FUSION GT-TR01-AHD-020-COB-01SC 2700K RA90 60D TYPE:	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:

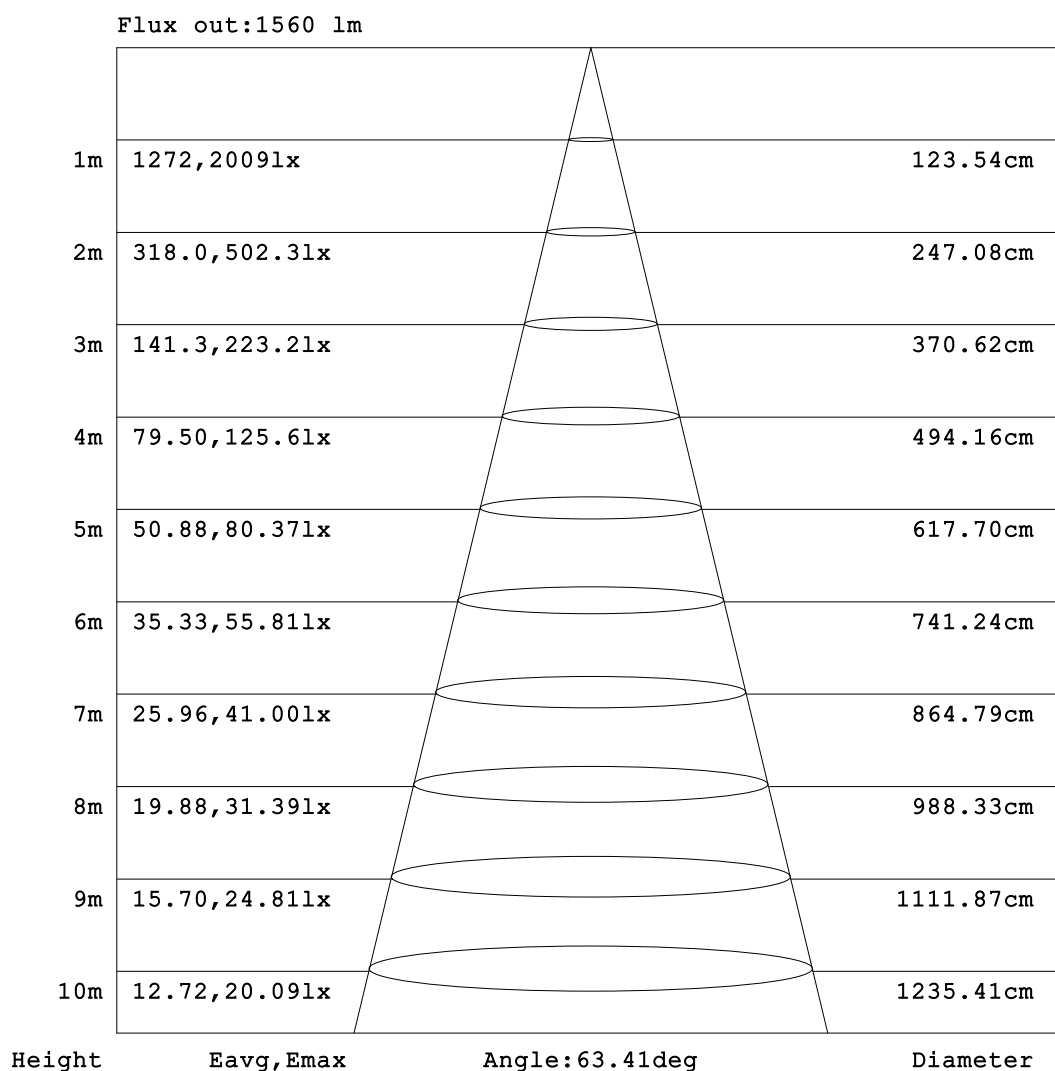


C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-11-06

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:0.0845A P:20.0W PF:0.9851 Freq:49.99Hz		
UTHDi:0.17% ITHDi:5.84% KDisp:0.9869		Lamp Flux:2135.75x1 lm
NAME: FUSION GT-TR01-AHD-020-COB-01SC 2700K RA90 60D TYPE:	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:



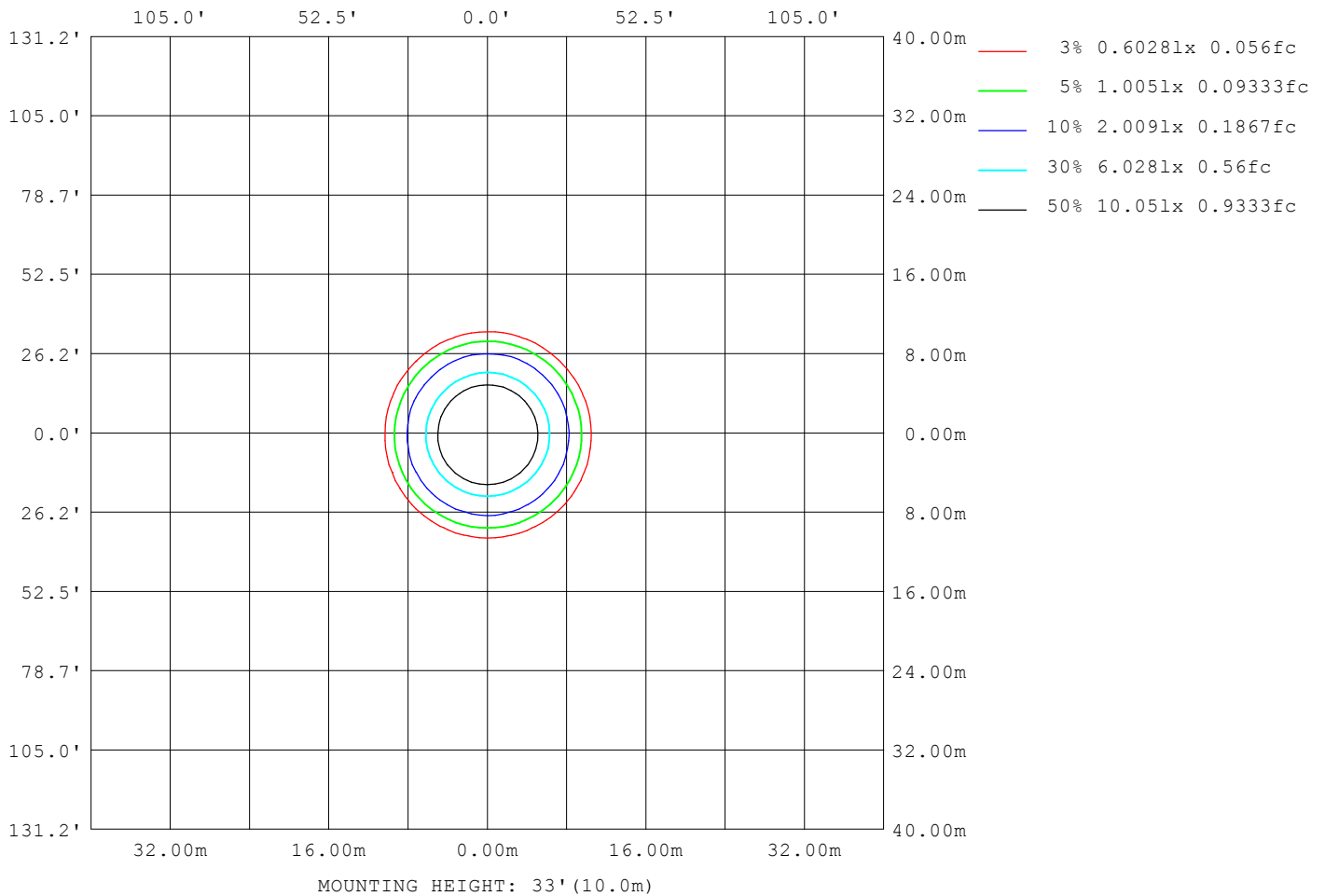
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2024-11-06

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:0.0845A P:20.0W PF:0.9851 Freq:49.99Hz		
UTHDi:0.17% ITHDi:5.84% KDisp:0.9869		Lamp Flux:2135.75x1 lm
NAME: FUSION GT-TR01-AHD-020-COB-01SC 2700K 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:2024-11-06

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:0.0845A P:20.0W PF:0.9851 Freq:49.99Hz		
UTHDi:0.17% ITHDi:5.84% KDisp:0.9869 Lamp Flux:2135.75x1 lm		
NAME: FUSION GT-TR01-AHD-020-COB-01SC 2700K RA90 60D TYPE:	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:

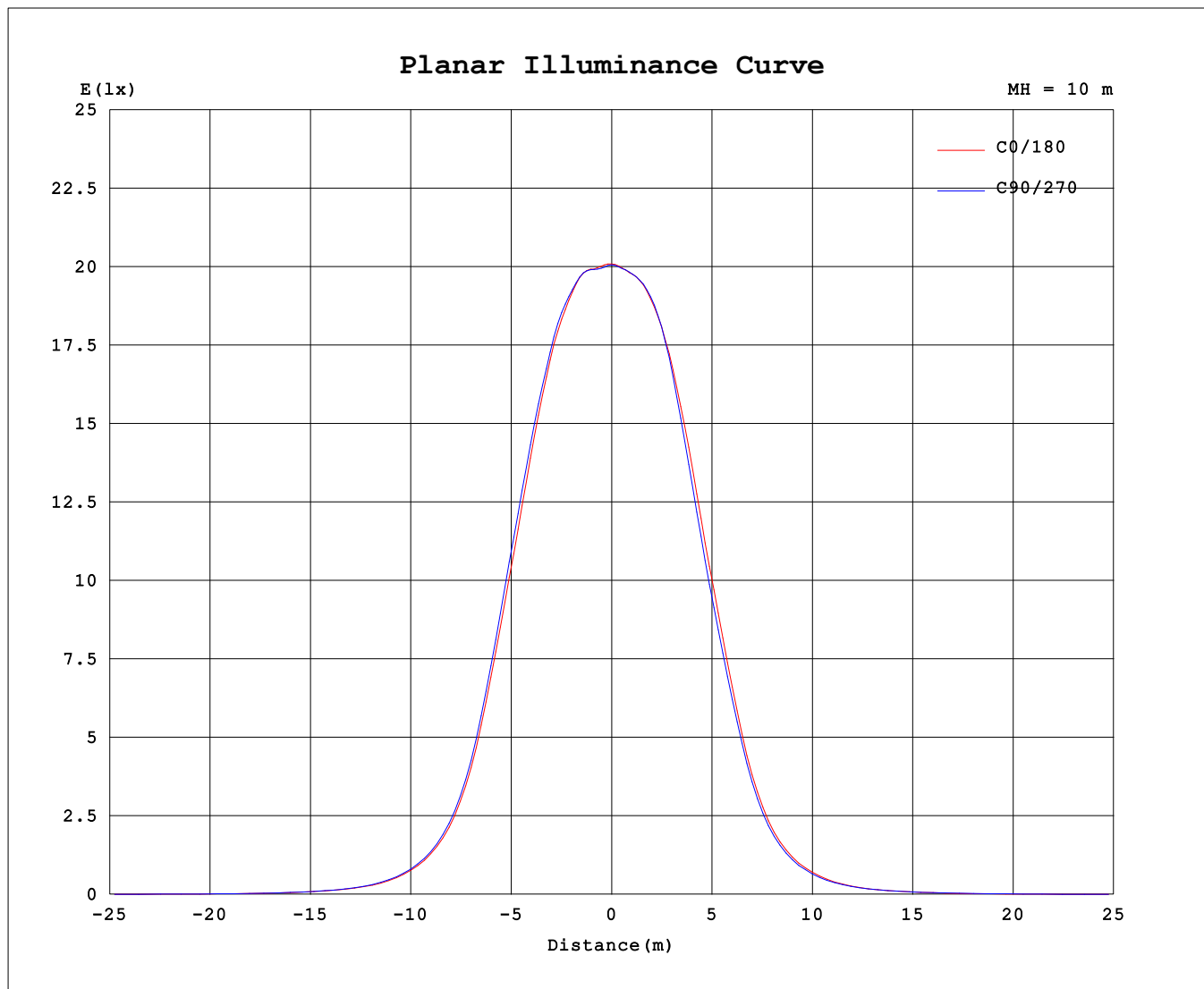
AvgL	cd/m2
L_0~180 (65) av	9407
L_0~180 (75) av	2816
L_0~180 (85) av	583
L_90~270 (65) av	9707
L_90~270 (75) av	2802
L_90~270 (85) av	573
L_45 (65) av	9480
L_45 (75) av	2797
L_45 (85) av	526

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-11-06

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: 2024-11-06

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	2007	2007	2007	2007	2007	2007	2007	2007
3.0	2007	2008	2004	2003	2002	2004	2003	2005
6.0	2023	2024	2024	2017	2006	2004	2009	2015
9.0	2038	2039	2042	2025	2012	2012	2018	2024
12.0	2020	2030	2036	2012	1997	2005	2007	2004
15.0	1990	2016	2020	1989	1957	1960	1954	1970
18.0	1914	1949	1949	1918	1876	1851	1844	1871
21.0	1793	1841	1844	1819	1749	1700	1685	1727
24.0	1624	1682	1690	1667	1570	1514	1496	1545
27.0	1426	1484	1499	1472	1371	1310	1293	1346
30.0	1189	1232	1250	1221	1137	1072	1072	1120
33.0	913.1	944.1	965.8	936.4	865.3	802.8	818.2	859.9
36.0	653.5	678.2	691.8	672.0	614.5	568.7	576.4	610.7
39.0	455.9	476.8	482.6	469.9	422.3	396.7	394.9	421.6
42.0	315.5	332.7	333.0	322.6	290.2	274.1	270.0	288.5
45.0	217.3	231.0	229.1	221.2	198.6	187.7	185.1	196.3
48.0	147.2	158.4	155.7	146.6	133.0	127.7	126.1	131.5
51.0	98.86	107.5	105.1	98.13	88.96	87.69	86.67	89.64
54.0	67.60	72.89	71.88	66.62	60.04	59.25	60.25	61.19
57.0	47.54	50.56	50.57	46.91	42.16	41.86	43.25	42.91
60.0	32.09	33.57	33.03	30.87	27.35	27.48	29.23	29.09
63.0	21.36	22.26	21.77	20.27	17.93	18.05	19.51	19.39
66.0	14.45	14.89	14.36	13.38	12.24	12.22	12.93	13.12
69.0	10.32	10.29	9.921	9.553	8.891	8.803	9.075	9.424
72.0	7.258	7.171	6.527	6.168	5.556	5.707	6.235	6.593
75.0	2.960	2.946	2.797	2.640	2.580	2.585	2.714	2.834
78.0	2.251	2.215	2.110	1.989	2.006	2.020	2.131	2.189
81.0	1.547	1.515	1.430	1.325	1.321	1.343	1.461	1.503
84.0	0.5494	0.5012	0.3699	0.2918	0.2781	0.2950	0.4314	0.4798
87.0	0.1271	0.1035	0.1108	0.0956	0.1038	0.0961	0.1246	0.1141
90.0	0.0571	0.0447	0.0624	0.0454	0.0513	0.0498	0.0550	0.0476

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-11-06

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: