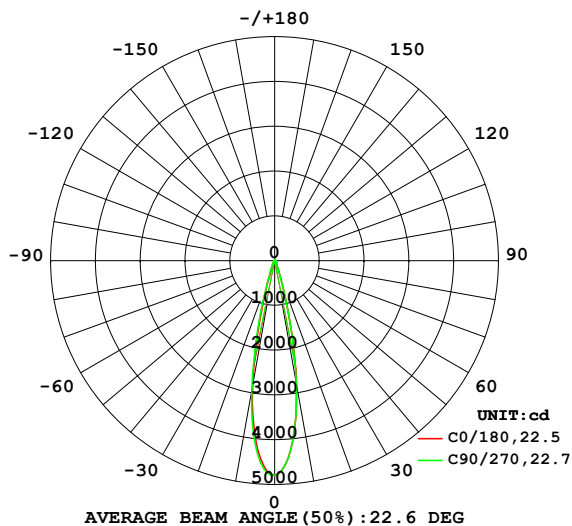


LUMINAIRE PHOTOMETRIC TEST REPORT

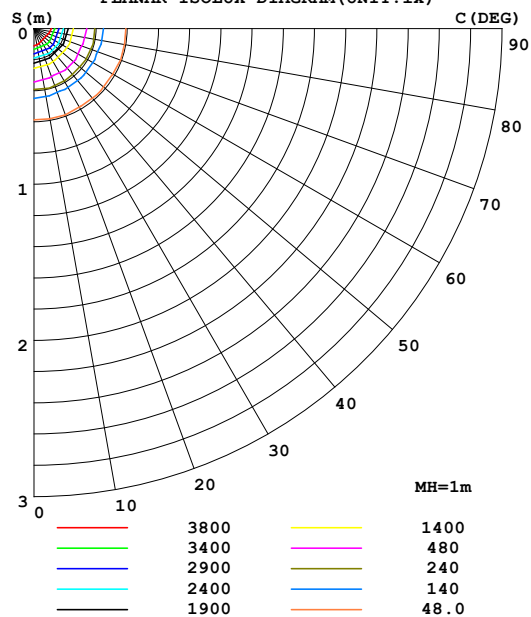
Test:U:240.2V I:0.0416A P:9.2W PF:0.9263 Freq:49.99Hz		
UTHDi:0.16% ITHDi:17.98% KDisp:0.9416 Lamp Flux:828.003x1 lm		
NAME: MD10-09-XX-04 3000K RA90 24D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 41mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 89.53 lm/W
MODEL		I _{max} (cd)	4795	S/MH (C0/180)		0.36
NOMINAL POWER(W)	9	LOR (%)	100.0	S/MH (C90/270)		0.37
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	828.00	η UP,DN (C0-180)		0.0,49.4
NOMINAL FLUX(lm)	828.003	CIE CLASS	DIRECT	η UP,DN (C180-360)		0.0,50.6
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM		0.00
TEST VOLTAGE(V)	240.17	η down (%)	100.0	CIBSE SHR MAX		0.30

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



PLANAR ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-12-21

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	2813	2773	2799	2811	2859	2929	2960	2888	0- 10	361.6	361.6	43.7,43.7
20	350.6	345.2	340.8	326.5	312.0	337.2	373.2	362.1	10- 20	337.3	698.9	84.4,84.4
30	74.05	76.34	77.09	73.37	71.04	76.23	80.82	77.22	20- 30	72.18	771.1	93.1,93.1
40	30.03	30.58	29.97	29.43	28.90	29.43	30.38	30.44	30- 40	29.43	800.5	96.7,96.7
50	13.87	13.82	13.67	13.45	13.52	13.27	13.61	13.39	40- 50	16.01	816.5	98.6,98.6
60	3.922	4.077	4.237	4.250	4.188	4.131	4.151	3.911	50- 60	7.304	823.8	99.5,99.5
70	1.700	1.750	1.867	1.860	1.859	1.877	1.889	1.753	60- 70	2.725	826.5	99.8,99.8
80	0.6351	0.6395	0.6459	0.6636	0.6884	0.6787	0.6249	0.6124	70- 80	1.263	827.8	100,100
90	0.0349	0.0231	0.0418	0.0222	0.0218	0.0228	0.0248	0.0171	80- 90	0.2150	828.0	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): 809.67 lm

%lum = 97.8%

%lamp = 97.8%

Conical surface Flux(120deg): 823.8 lm

%lum = 99.5%

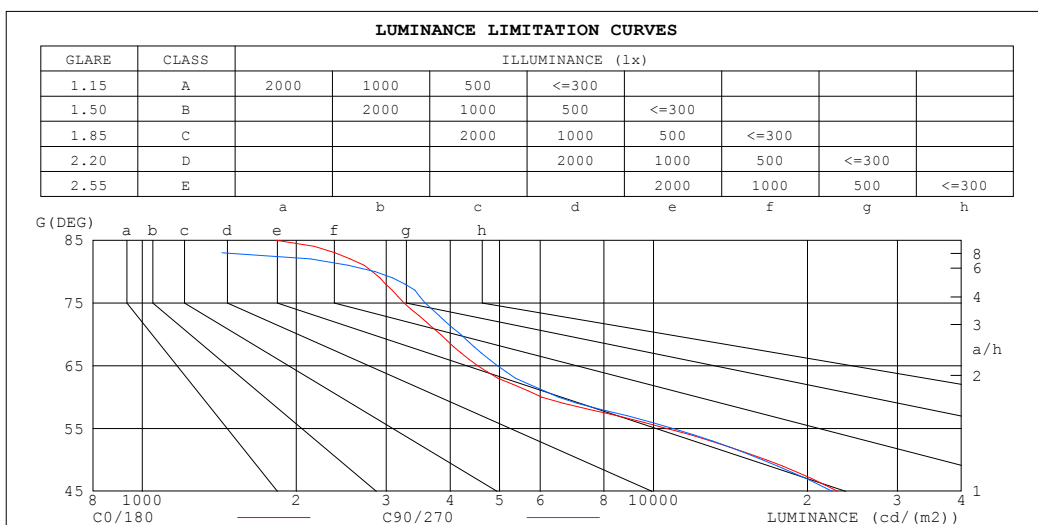
%lamp = 99.5%

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2023-12-21

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:240.2V I:0.0416A P:9.2W PF:0.9263 Freq:49.99Hz		
UTHDi:0.16% ITHDi:17.98% KDisp:0.9416 Lamp Flux:828.003x1 lm		
NAME: MD10-09-XX-04 3000K RA90 24D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 41mm	Shielding Angle:



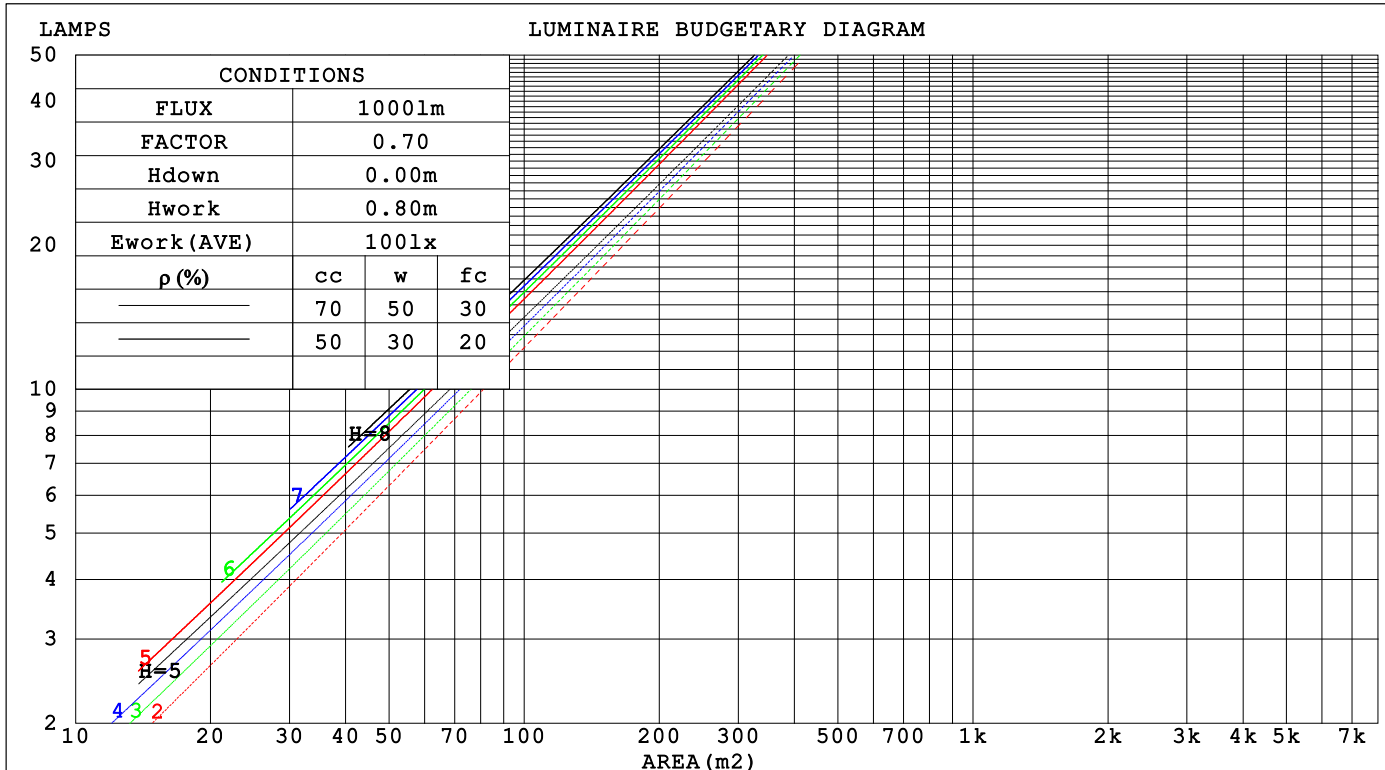
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2023-12-21

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:240.2V I:0.0416A P:9.2W PF:0.9263 Freq:49.99Hz		
UTHDi:0.16% ITHDi:17.98% KDisp:0.9416 Lamp Flux:828.003x1 lm		
NAME: MD10-09-XX-04 3000K RA90 24D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 41mm	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: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-12-21

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:240.2V I:0.0416A P:9.2W PF:0.9263 Freq:49.99Hz			UTHDi:0.16% ITHDi:17.98% KDisp:0.9416			Lamp Flux:828.003x1 lm		
NAME: MD10-09-XX-04 3000K RA90 24D			TYPE:			WEIGHT:		
SPEC.:			DIM.:			SERIAL No.:		
MFR.: Norming Lighting			SUR.: 41mm			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	.134	.076	.024	.127	.072	.023	.115	.066	.021	.103	.060	.019	.093	.054	.017		
2.0	.123	.068	.021	.118	.065	.020	.108	.060	.019	.098	.055	.017	.090	.051	.016		
3.0	.115	.061	.018	.110	.059	.018	.102	.055	.017	.094	.051	.016	.086	.048	.015		
4.0	.107	.056	.016	.103	.054	.016	.096	.051	.015	.089	.048	.014	.083	.045	.014		
5.0	.100	.051	.015	.097	.050	.014	.091	.047	.014	.085	.045	.013	.080	.043	.013		
6.0	.094	.047	.014	.092	.046	.013	.086	.044	.013	.082	.042	.012	.077	.041	.012		
7.0	.089	.044	.013	.087	.043	.012	.082	.042	.012	.078	.040	.012	.074	.039	.011		
8.0	.085	.041	.012	.083	.041	.011	.079	.039	.011	.075	.038	.011	.072	.037	.011		
9.0	.081	.039	.011	.079	.038	.011	.075	.037	.011	.072	.036	.010	.069	.035	.010		
10.0	.077	.037	.010	.075	.036	.010	.072	.035	.010	.069	.034	.010	.067	.034	.010		

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	.168	.158	.148	.144	.135	.128	.098	.093	.088	.057	.054	.051	.018	.017	.017		
2.0	.150	.133	.118	.128	.114	.102	.088	.079	.071	.051	.046	.042	.016	.015	.014		
3.0	.135	.113	.096	.115	.098	.083	.079	.068	.059	.046	.040	.035	.015	.013	.011		
4.0	.122	.098	.080	.104	.085	.069	.072	.059	.049	.042	.035	.029	.013	.011	.009		
5.0	.111	.085	.067	.095	.074	.058	.066	.052	.041	.038	.030	.024	.012	.010	.008		
6.0	.102	.075	.056	.088	.065	.049	.060	.046	.035	.035	.027	.021	.011	.009	.007		
7.0	.094	.067	.048	.081	.058	.042	.056	.041	.030	.032	.024	.018	.010	.008	.006		
8.0	.087	.060	.042	.075	.052	.036	.052	.037	.026	.030	.022	.015	.010	.007	.005		
9.0	.081	.054	.036	.070	.047	.032	.049	.033	.022	.028	.020	.013	.009	.006	.004		
10.0	.076	.050	.032	.066	.043	.028	.046	.030	.020	.027	.018	.012	.009	.006	.004		

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-12-21

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:240.2V I:0.0416A P:9.2W PF:0.9263 Freq:49.99Hz UTHDi:0.16% ITHDi:17.98% KDisp:0.9416Lamp Flux:828.003x1 lm										
NAME: MD10-09-XX-04 3000K RA90 24D						TYPE:		WEIGHT:		
SPEC.:						DIM.:		SERIAL No.:		
MFR.: Norming Lighting						SUR.: 41mm		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	13.4	14.0	13.6	14.2	14.3	13.4	14.1	13.6	14.2	14.4
3H	13.5	14.0	13.7	14.2	14.4	13.5	14.1	13.8	14.3	14.5
4H	13.5	14.0	13.7	14.2	14.4	13.5	14.1	13.8	14.3	14.5
6H	13.4	14.0	13.7	14.2	14.4	13.5	14.1	13.8	14.3	14.5
8H	13.4	13.9	13.7	14.2	14.4	13.5	14.0	13.8	14.3	14.5
12H	13.4	13.9	13.7	14.1	14.4	13.5	14.0	13.8	14.2	14.5
4H 2H	13.4	13.9	13.6	14.1	14.3	13.4	14.0	13.7	14.2	14.4
3H	13.5	13.9	13.8	14.2	14.5	13.5	14.0	13.8	14.3	14.5
4H	13.5	13.9	13.8	14.2	14.5	13.6	14.0	13.9	14.3	14.6
6H	13.5	13.9	13.9	14.2	14.6	13.6	14.0	14.0	14.3	14.7
8H	13.5	13.9	13.9	14.2	14.6	13.6	14.0	14.0	14.3	14.7
12H	13.5	13.8	13.9	14.2	14.6	13.5	13.9	13.9	14.2	14.6
8H 4H	13.4	13.8	13.8	14.1	14.5	13.5	13.9	13.9	14.2	14.6
6H	13.5	13.8	13.9	14.2	14.6	13.6	13.9	14.0	14.3	14.7
8H	13.5	13.7	13.9	14.1	14.6	13.5	13.8	14.0	14.2	14.7
12H	13.4	13.7	13.9	14.1	14.6	13.5	13.7	13.9	14.2	14.6
12H 4H	13.4	13.7	13.8	14.1	14.5	13.5	13.8	13.9	14.2	14.6
6H	13.4	13.7	13.9	14.1	14.5	13.5	13.8	14.0	14.2	14.6
8H	13.4	13.7	13.9	14.1	14.6	13.5	13.7	14.0	14.2	14.6
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 1.6 / - 2.7					+ 1.5 / - 2.6				
1.5H	+ 1.8 / - 2.1					+ 1.9 / - 2.0				
2.0H	+ 3.3 / - 3.4					+ 3.2 / - 3.3				

CIE Pub.117, 828.0 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = -0.7)
Area: 0.0013 m2

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-12-21

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:240.2V I:0.0416A P:9.2W PF:0.9263 Freq:49.99Hz		
UTHDi:0.16% ITHDi:17.98% KDisp:0.9416 Lamp Flux:828.003x1 lm		
NAME: MD10-09-XX-04 3000K RA90 24D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 41mm	Shielding Angle:

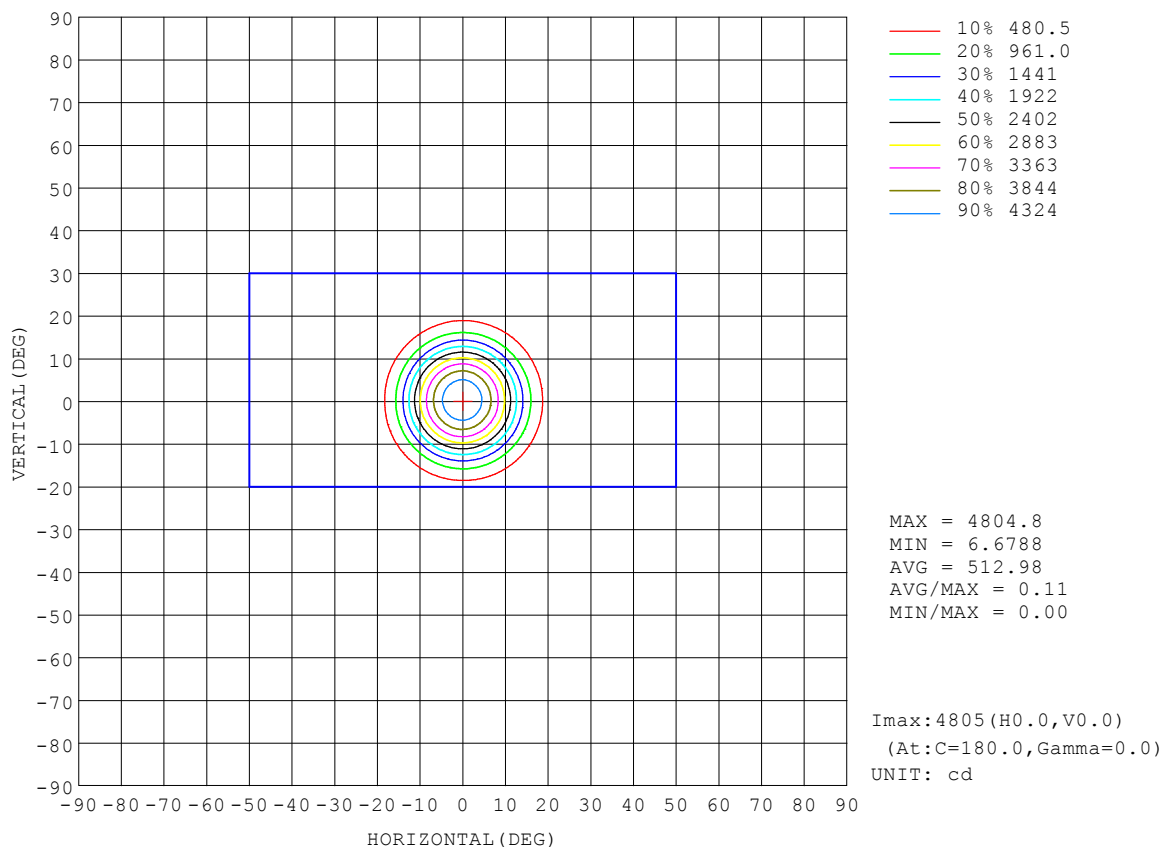
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	89	83	80	89	83	80	88	83	80	76
0.80	97	91	88	96	91	88	95	90	87	84
1.00	101	95	92	100	95	92	98	95	91	88
1.25	104	100	96	103	99	96	101	98	95	91
1.50	107	102	99	106	102	99	104	100	98	94
2.00	109	105	102	108	104	102	105	102	100	95
2.50	111	107	104	109	106	104	106	104	102	96
3.00	112	109	107	111	108	105	107	105	103	97
4.00	114	112	110	112	110	108	109	107	105	98
5.00	115	113	112	113	112	110	109	108	107	99
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: MEDIUM
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2023-12-21

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:240.2V I:0.0416A P:9.2W PF:0.9263 Freq:49.99Hz		
UTHDi:0.16% ITHDi:17.98% KDisp:0.9416 Lamp Flux:828.003x1 lm		
NAME: MD10-09-XX-04 3000K RA90 24D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 41mm	Shielding Angle:

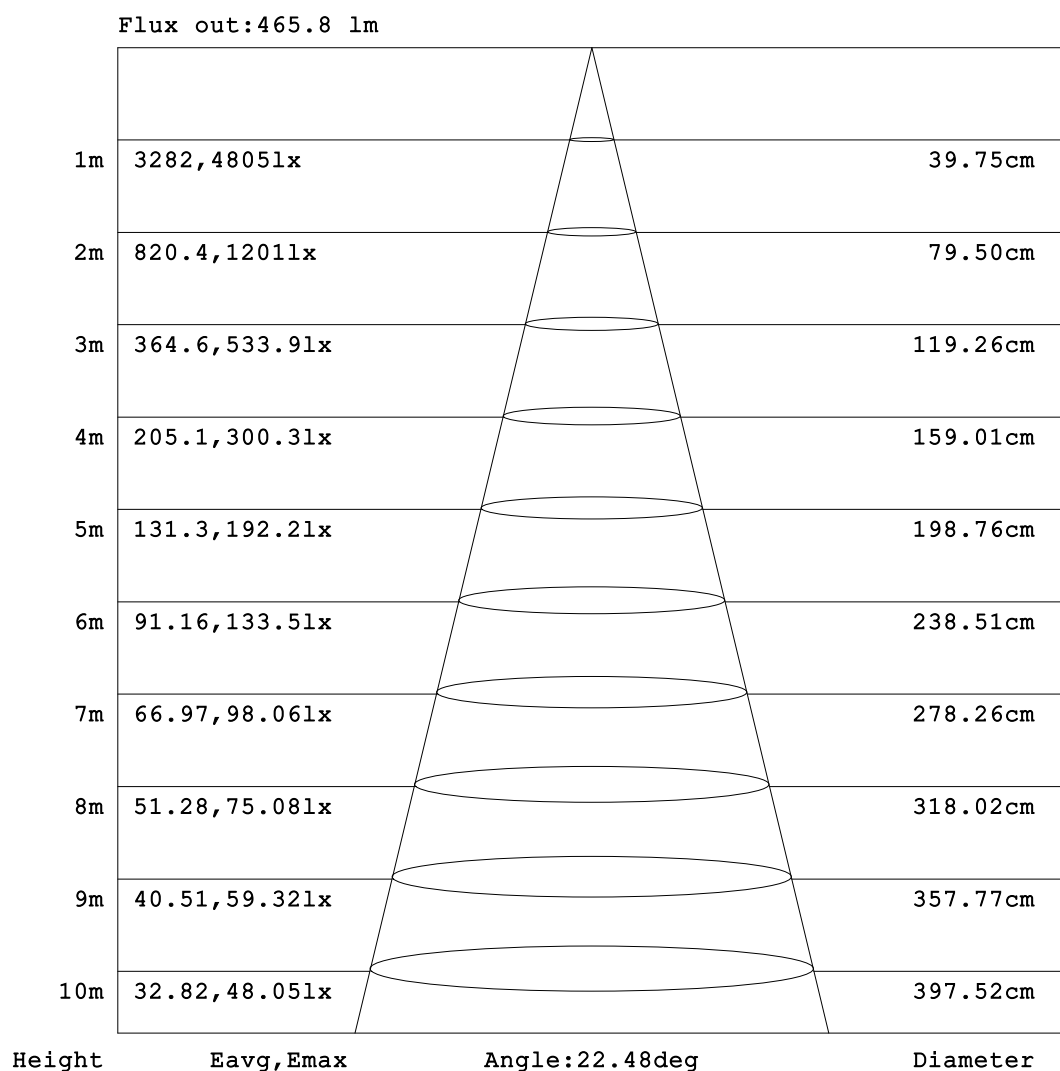


C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-12-21

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:240.2V I:0.0416A P:9.2W PF:0.9263 Freq:49.99Hz		
UTHDi:0.16% ITHDi:17.98% KDisp:0.9416 Lamp Flux:828.003x1 lm		
NAME: MD10-09-XX-04 3000K RA90 24D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 41mm	Shielding Angle:



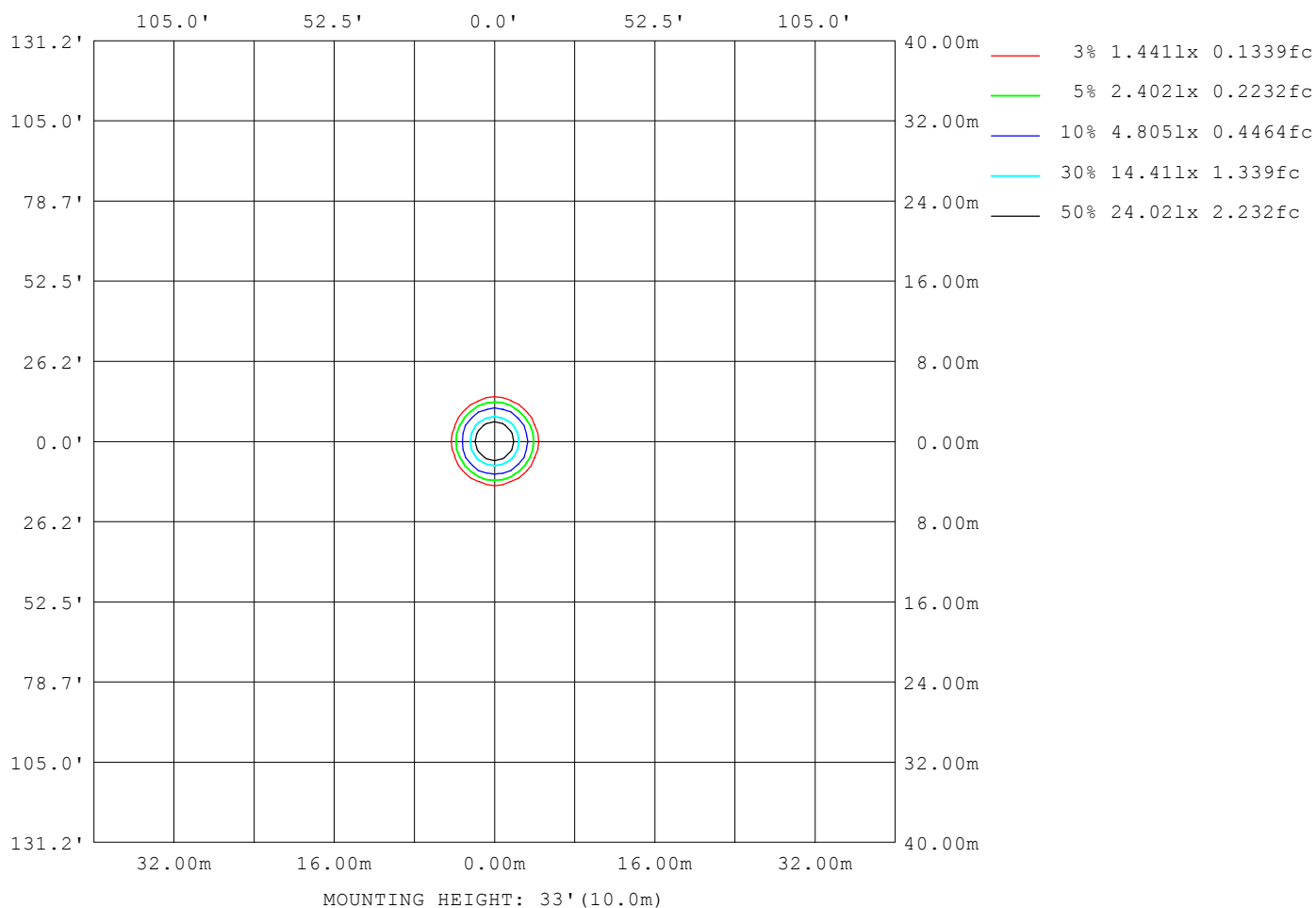
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-12-21

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:240.2V I:0.0416A P:9.2W PF:0.9263 Freq:49.99Hz		
UTHDi:0.16% ITHDi:17.98% KDisp:0.9416 Lamp Flux:828.003x1 lm		
NAME: MD10-09-XX-04 3000K RA90 24D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 41mm	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-12-21

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:240.2V I:0.0416A P:9.2W PF:0.9263 Freq:49.99Hz		
UTHDi:0.16% ITHDi:17.98% KDisp:0.9416 Lamp Flux:828.003x1 lm		
NAME: MD10-09-XX-04 3000K RA90 24D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 41mm	Shielding Angle:

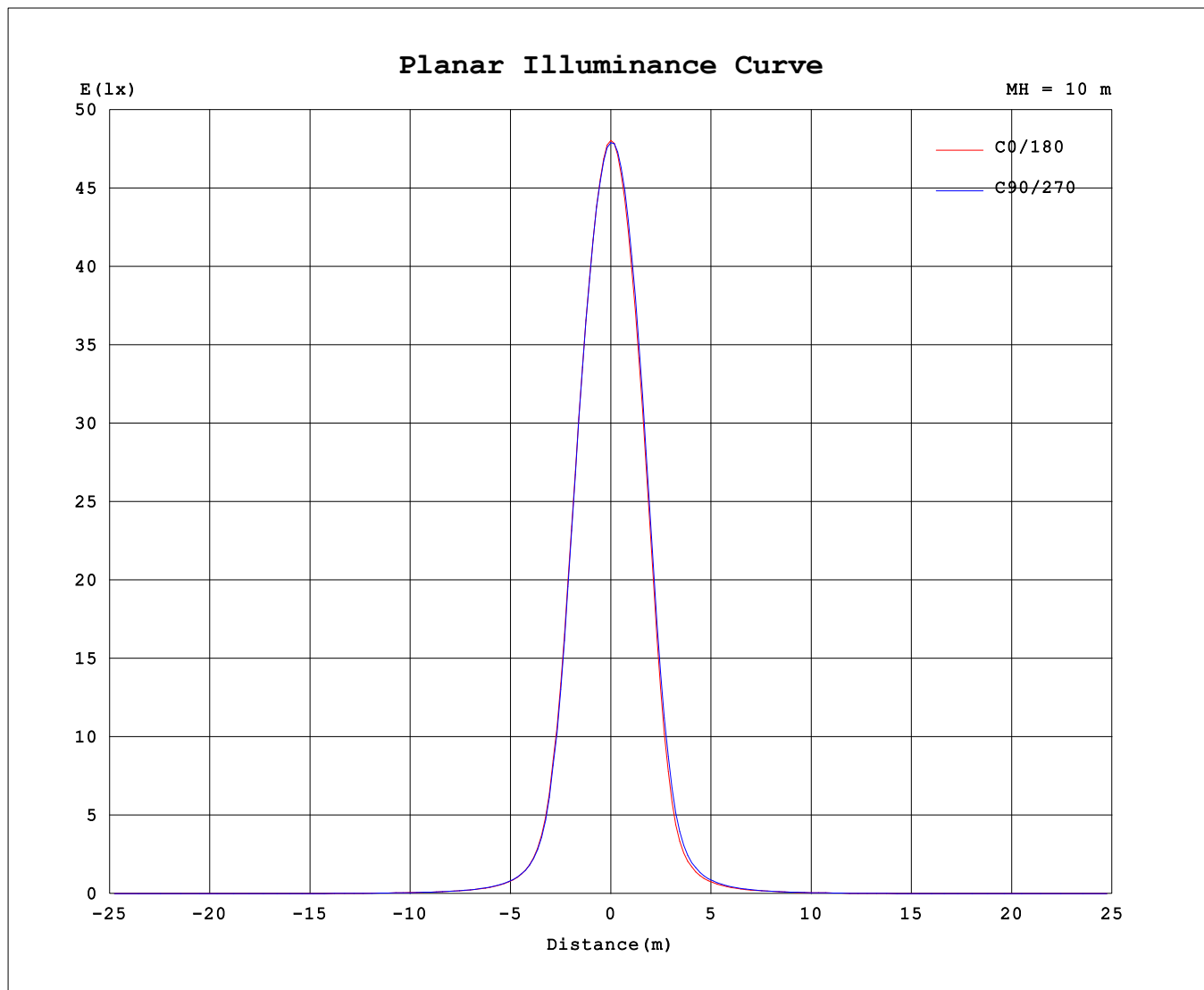
AvgL	cd/m2
L_0~180 (65) av	4721
L_0~180 (75) av	3423
L_0~180 (85) av	1965
L_90~270 (65) av	4985
L_90~270 (75) av	3614
L_90~270 (85) av	378
L_45 (65) av	4832
L_45 (75) av	3468
L_45 (85) av	225

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-12-21

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: MEDIUM
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2023-12-21

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	4795	4795	4795	4795	4795	4795	4795	4795
3.0	4566	4550	4568	4590	4599	4629	4654	4609
6.0	3991	3957	3994	4017	4044	4102	4138	4063
9.0	3147	3106	3145	3162	3199	3270	3304	3230
12.0	2122	2081	2094	2088	2130	2192	2229	2170
15.0	1178	1149	1142	1128	1131	1177	1245	1206
18.0	568.6	555.3	546.7	525.9	511.2	549.5	600.5	583.3
21.0	282.8	280.1	277.3	266.4	253.3	273.1	301.9	292.5
24.0	164.7	166.3	165.8	159.7	152.1	162.8	178.1	170.6
27.0	106.6	109.2	109.7	105.3	101.4	108.1	116.4	110.8
30.0	74.05	76.34	77.09	73.37	71.04	76.23	80.82	77.22
33.0	53.63	55.69	55.85	53.20	51.63	54.99	57.75	55.93
36.0	40.78	42.27	41.77	40.40	39.35	41.18	42.68	42.23
39.0	32.30	33.08	32.42	31.75	31.12	31.90	32.91	32.97
42.0	26.04	26.22	25.73	25.30	24.97	25.16	25.97	26.02
45.0	21.01	20.96	20.57	20.17	20.11	19.97	20.60	20.57
48.0	16.60	16.55	16.25	15.94	16.02	15.78	16.22	16.07
51.0	12.53	12.54	12.45	12.27	12.34	12.09	12.39	12.12
54.0	8.983	9.047	9.150	9.049	9.059	8.876	9.030	8.734
57.0	6.001	6.106	6.293	6.249	6.181	6.063	6.149	5.862
60.0	3.922	4.077	4.237	4.250	4.188	4.131	4.151	3.911
63.0	2.921	3.039	3.175	3.190	3.149	3.176	3.197	2.983
66.0	2.301	2.397	2.525	2.538	2.503	2.533	2.553	2.370
69.0	1.834	1.895	2.015	2.017	2.000	2.024	2.044	1.893
72.0	1.438	1.481	1.576	1.577	1.583	1.592	1.605	1.482
75.0	1.091	1.127	1.205	1.207	1.212	1.221	1.227	1.113
78.0	0.8067	0.8410	0.8839	0.8807	0.8912	0.9086	0.8546	0.8162
81.0	0.5514	0.5355	0.5143	0.5506	0.5881	0.5567	0.4972	0.5062
84.0	0.2945	0.1668	0.0517	0.1886	0.3319	0.1740	0.0408	0.1267
87.0	0.0469	0.0199	0.0434	0.0180	0.0359	0.0215	0.0376	0.0174
90.0	0.0349	0.0231	0.0418	0.0222	0.0218	0.0228	0.0248	0.0171

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-12-21

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: