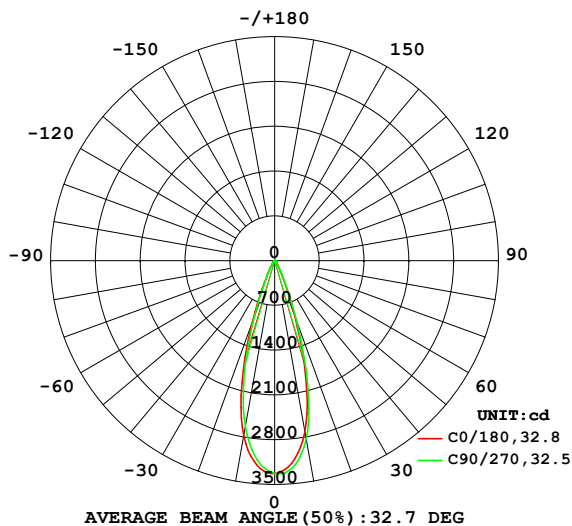


LUMINAIRE PHOTOMETRIC TEST REPORT

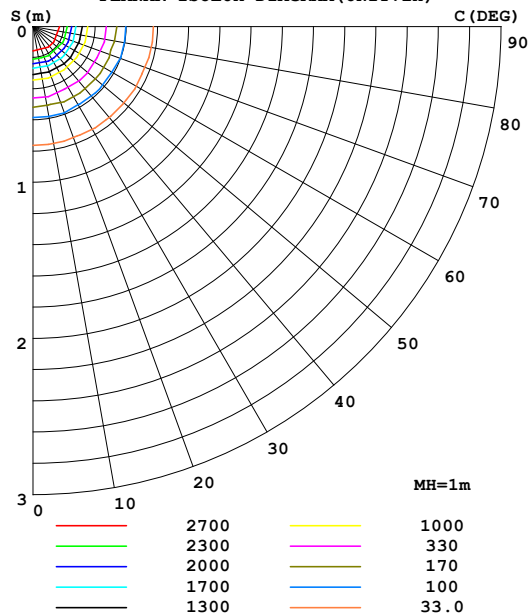
Test:U:240.2V I:0.0569A P:13.0W PF:0.9521 Freq:49.99Hz		
UTHDi:0.17% ITHDi:18.78% KDisp:0.9689 Lamp Flux:1095.38x1 lm		
NAME: MD10-13-XX-04 2700K RA90 36D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 41mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 84.20 lm/W
MODEL		I _{max} (cd)	3337	S/MH(C0/180)	0.52	
NOMINAL POWER(W)	13	LOR(%)	100.0	S/MH(C90/270)	0.50	
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	1095.4	η UP,DN(C0-180)	0.0,51.0	
NOMINAL FLUX(lm)	1095.38	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,49.0	
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.50	
TEST VOLTAGE(V)	240.1	η down (%)	100.0	CIBSE SHR MAX	0.50	

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:2023-12-26

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	2723	2796	2838	2846	2787	2710	2643	2663	0- 10	290.6	290.6	26.5,26.5
20	940.8	983.9	1012	1059	1017	950.6	929.0	921.8	10- 20	512.1	802.8	73.3,73.3
30	150.2	158.6	171.7	186.3	166.8	152.8	155.8	152.3	20- 30	195.8	998.6	91.2,91.2
40	47.01	48.01	49.39	51.55	49.67	47.63	46.94	46.34	30- 40	55.92	1055	96.3,96.3
50	17.62	18.26	18.95	20.12	19.70	18.63	18.07	17.86	40- 50	23.45	1078	98.4,98.4
60	6.405	6.492	6.833	7.050	7.038	6.972	6.835	6.626	50- 60	10.48	1088	99.4,99.4
70	2.739	2.958	3.277	3.350	3.167	3.136	3.069	2.867	60- 70	4.725	1093	99.8,99.8
80	0.7933	0.7957	0.8366	0.9298	0.9706	0.8769	0.7514	0.7575	70- 80	1.958	1095	100,100
90	0.0500	0.0366	0.0524	0.0360	0.0372	0.0337	0.0459	0.0338	80- 90	0.2531	1095	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): 1068.5 lm

%lum = 97.5%

%lamp = 97.5%

Conical surface Flux(120deg): 1088.4 lm

%lum = 99.4%

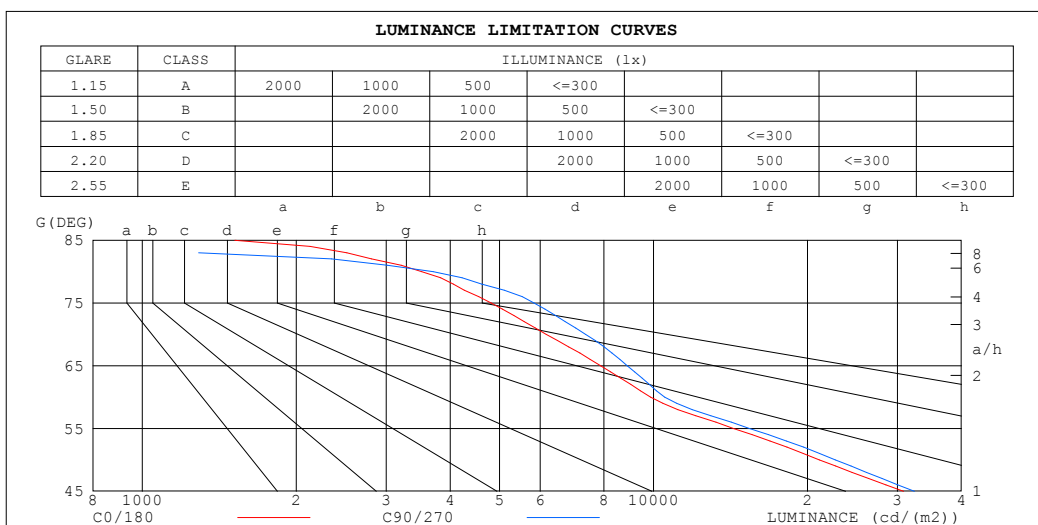
%lamp = 99.4%

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2023-12-26

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:0.0569A P:13.0W PF:0.9521 Freq:49.99Hz		
UTHDi:0.17% ITHDi:18.78% KDisp:0.9689 Lamp Flux:1095.38x1 lm		
NAME: MD10-13-XX-04 2700K RA90 36D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 41mm	Shielding Angle:



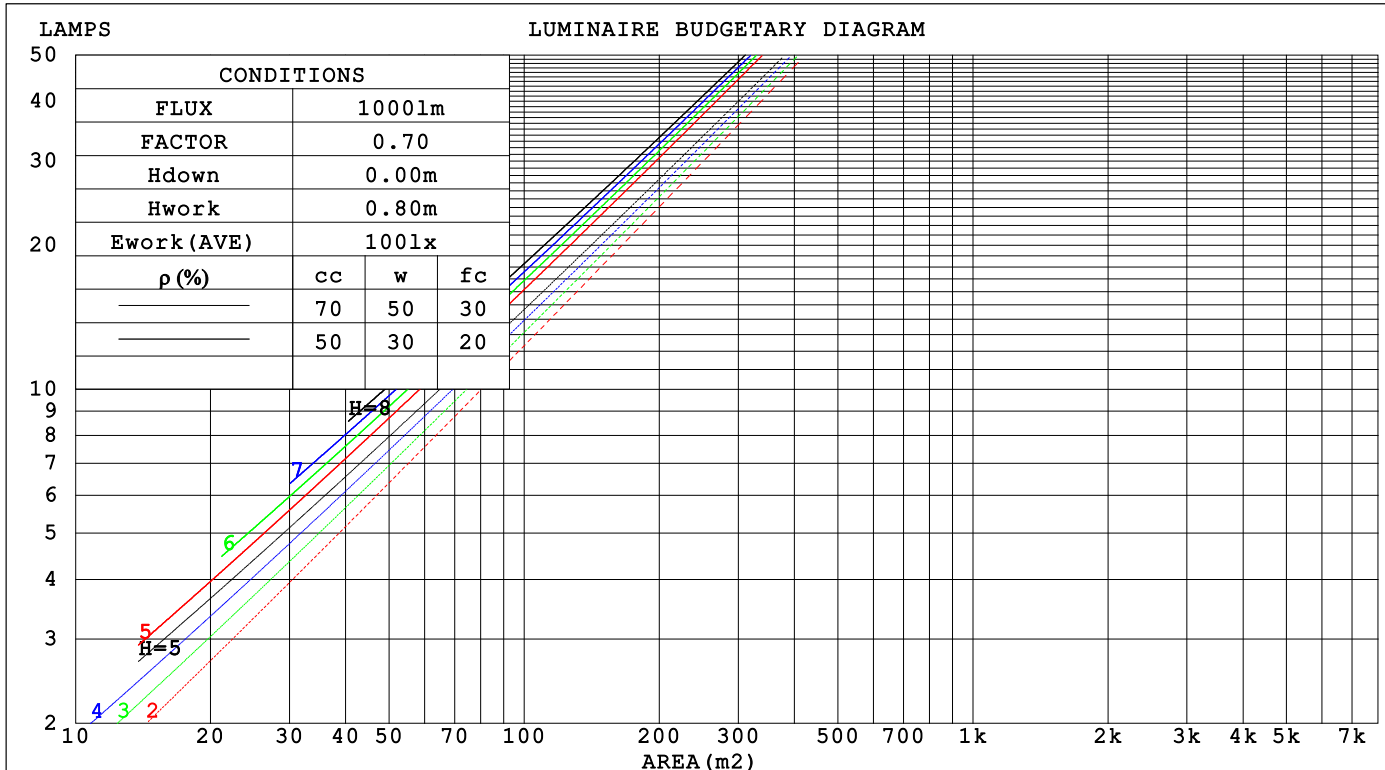
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-12-26

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:0.0569A P:13.0W PF:0.9521 Freq:49.99Hz		
UTHDi:0.17% ITHDi:18.78% KDisp:0.9689		
Lamp Flux:1095.38x1 lm		
NAME: MD10-13-XX-04 2700K RA90 36D	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: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-12-26

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:0.0569A P:13.0W PF:0.9521 Freq:49.99Hz			UTHDi:0.17% ITHDi:18.78% KDisp:0.9689			Lamp Flux:1095.38x1 lm		
NAME: MD10-13-XX-04 2700K RA90 36D			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	.148	.084	.027	.141	.081	.026	.129	.074	.024	.117	.068	.022	.107	.062	.020		
2.0	.138	.076	.023	.133	.073	.023	.123	.068	.021	.113	.063	.020	.104	.059	.019		
3.0	.130	.069	.021	.125	.067	.020	.116	.063	.019	.108	.059	.018	.101	.056	.017		
4.0	.122	.063	.019	.118	.062	.018	.111	.059	.018	.104	.056	.017	.098	.053	.016		
5.0	.115	.059	.017	.112	.057	.017	.106	.055	.016	.100	.053	.016	.094	.050	.015		
6.0	.109	.055	.016	.106	.054	.015	.101	.052	.015	.096	.050	.015	.091	.048	.014		
7.0	.104	.051	.015	.101	.051	.014	.097	.049	.014	.092	.047	.014	.088	.046	.013		
8.0	.099	.048	.014	.097	.048	.013	.093	.046	.013	.089	.045	.013	.085	.044	.013		
9.0	.095	.046	.013	.093	.045	.013	.089	.044	.013	.086	.043	.012	.082	.042	.012		
10.0	.091	.044	.012	.089	.043	.012	.086	.042	.012	.083	.041	.012	.080	.040	.012		

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	.169	.158	.147	.145	.135	.127	.099	.093	.088	.057	.054	.051	.018	.017	.016		
2.0	.152	.133	.117	.130	.114	.101	.089	.079	.070	.051	.046	.041	.016	.015	.013		
3.0	.137	.113	.094	.118	.098	.082	.081	.068	.057	.047	.040	.034	.015	.013	.011		
4.0	.126	.098	.077	.108	.085	.067	.074	.059	.047	.043	.035	.028	.014	.011	.009		
5.0	.115	.086	.064	.099	.074	.056	.068	.052	.039	.040	.031	.023	.013	.010	.008		
6.0	.107	.076	.054	.092	.066	.047	.063	.046	.033	.037	.027	.020	.012	.009	.007		
7.0	.100	.068	.046	.086	.059	.040	.059	.041	.028	.034	.024	.017	.011	.008	.006		
8.0	.093	.062	.040	.080	.053	.035	.056	.037	.025	.032	.022	.015	.010	.007	.005		
9.0	.088	.056	.035	.076	.049	.030	.052	.034	.021	.031	.020	.013	.010	.007	.004		
10.0	.083	.051	.030	.072	.045	.026	.050	.031	.019	.029	.019	.011	.009	.006	.004		

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-12-26

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:0.0569A P:13.0W PF:0.9521 Freq:49.99Hz UTHDi:0.17% ITHDi:18.78% KDisp:0.9689 Lamp Flux:1095.38x1 lm										
NAME: MD10-13-XX-04 2700K RA90 36D					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	15.5	16.2	15.7	16.4	16.5	15.8	16.5	16.0	16.7	16.9
3H	15.6	16.2	15.8	16.4	16.6	15.9	16.6	16.2	16.8	17.0
4H	15.6	16.2	15.8	16.4	16.6	16.0	16.6	16.2	16.8	17.0
6H	15.5	16.1	15.8	16.4	16.6	15.9	16.5	16.2	16.8	17.0
8H	15.5	16.1	15.8	16.3	16.6	15.9	16.5	16.2	16.7	17.0
12H	15.5	16.0	15.8	16.3	16.6	15.9	16.4	16.2	16.7	16.9
4H 2H	15.5	16.1	15.7	16.3	16.5	15.8	16.4	16.0	16.6	16.8
3H	15.6	16.1	15.9	16.4	16.7	15.9	16.5	16.2	16.8	17.0
4H	15.6	16.1	16.0	16.4	16.7	16.0	16.5	16.3	16.8	17.1
6H	15.6	16.1	16.0	16.4	16.7	16.0	16.4	16.3	16.8	17.1
8H	15.6	16.0	16.0	16.3	16.7	15.9	16.4	16.3	16.7	17.1
12H	15.5	15.9	15.9	16.3	16.7	15.9	16.3	16.3	16.6	17.0
8H 4H	15.5	16.0	15.9	16.3	16.7	15.9	16.3	16.3	16.7	17.0
6H	15.5	15.9	16.0	16.3	16.7	15.9	16.3	16.3	16.6	17.1
8H	15.5	15.8	16.0	16.2	16.7	15.9	16.2	16.3	16.6	17.0
12H	15.5	15.7	15.9	16.2	16.6	15.8	16.1	16.3	16.5	17.0
12H 4H	15.5	15.9	15.9	16.3	16.6	15.9	16.2	16.3	16.6	17.0
6H	15.5	15.8	15.9	16.2	16.7	15.9	16.2	16.3	16.6	17.0
8H	15.5	15.7	15.9	16.2	16.6	15.8	16.1	16.3	16.5	17.0
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 1.9 / - 3.0					+ 2.0 / - 2.9				
1.5H	+ 2.9 / - 2.3					+ 3.0 / - 2.4				
2.0H	+ 3.1 / - 2.4					+ 3.1 / - 2.4				

CIE Pub.117, 1095 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 0.3)
Area: 0.0013 m2

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-12-26

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:0.0569A P:13.0W PF:0.9521 Freq:49.99Hz		
UTHDi:0.17% ITHDi:18.78% KDisp:0.9689 Lamp Flux:1095.38x1 lm		
NAME: MD10-13-XX-04 2700K RA90 36D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 41mm	Shielding Angle:

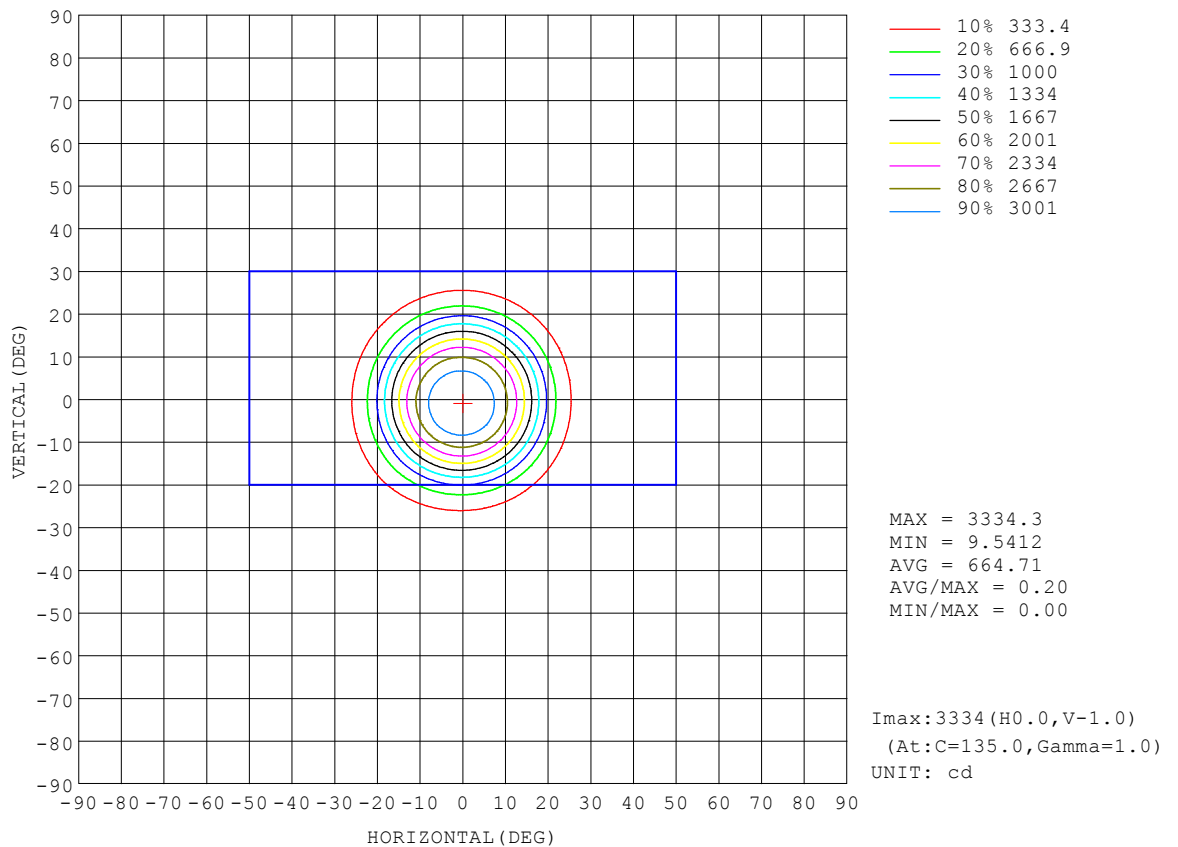
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	89	83	80	89	83	80	88	83	79	76
0.80	96	91	87	96	91	87	95	90	87	83
1.00	100	95	92	100	95	91	98	95	91	87
1.25	104	99	96	103	99	96	101	98	95	91
1.50	107	102	99	106	102	99	103	100	98	93
2.00	109	105	102	108	104	101	105	102	100	95
2.50	111	107	104	109	106	103	106	104	102	96
3.00	112	109	106	110	108	105	107	105	103	97
4.00	114	112	109	112	110	108	109	107	105	98
5.00	115	113	112	113	111	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: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2023-12-26

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:0.0569A P:13.0W PF:0.9521 Freq:49.99Hz		
UTHDi:0.17% ITHDi:18.78% KDisp:0.9689 Lamp Flux:1095.38x1 lm		
NAME: MD10-13-XX-04 2700K RA90 36D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 41mm	Shielding Angle:

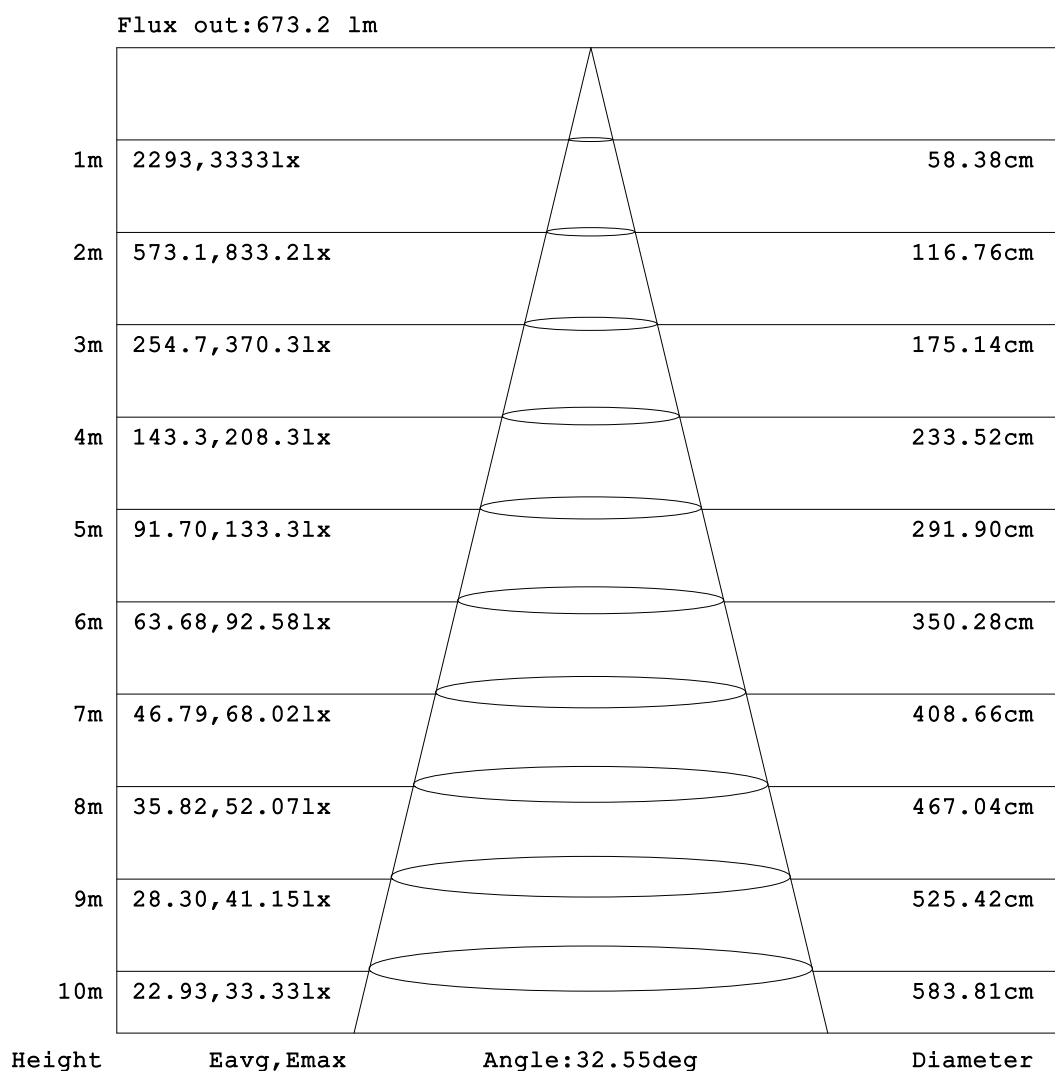


C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-12-26

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:0.0569A P:13.0W PF:0.9521 Freq:49.99Hz		
UTHDi:0.17% ITHDi:18.78% KDisp:0.9689 Lamp Flux:1095.38x1 lm		
NAME: MD10-13-XX-04 2700K RA90 36D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 41mm	Shielding Angle:



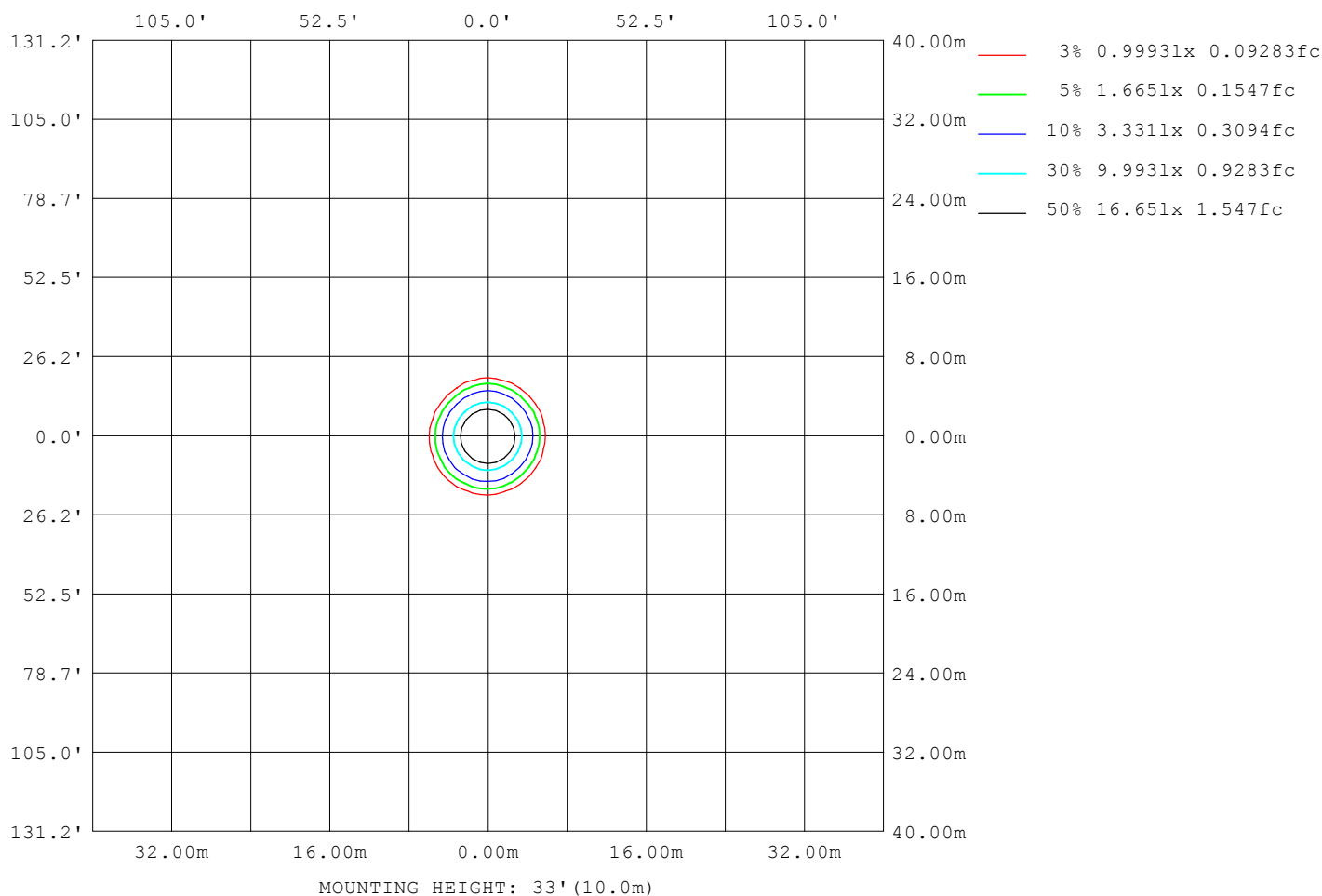
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-12-26

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:0.0569A P:13.0W PF:0.9521 Freq:49.99Hz		
UTHDi:0.17% ITHDi:18.78% KDisp:0.9689 Lamp Flux:1095.38x1 lm		
NAME: MD10-13-XX-04 2700K RA90 36D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 41mm	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-12-26

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:0.0569A P:13.0W PF:0.9521 Freq:49.99Hz UTHDi:0.17% ITHDi:18.78% KDisp:0.9689 Lamp Flux:1095.38x1 lm		
NAME: MD10-13-XX-04 2700K RA90 36D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 41mm	Shielding Angle:

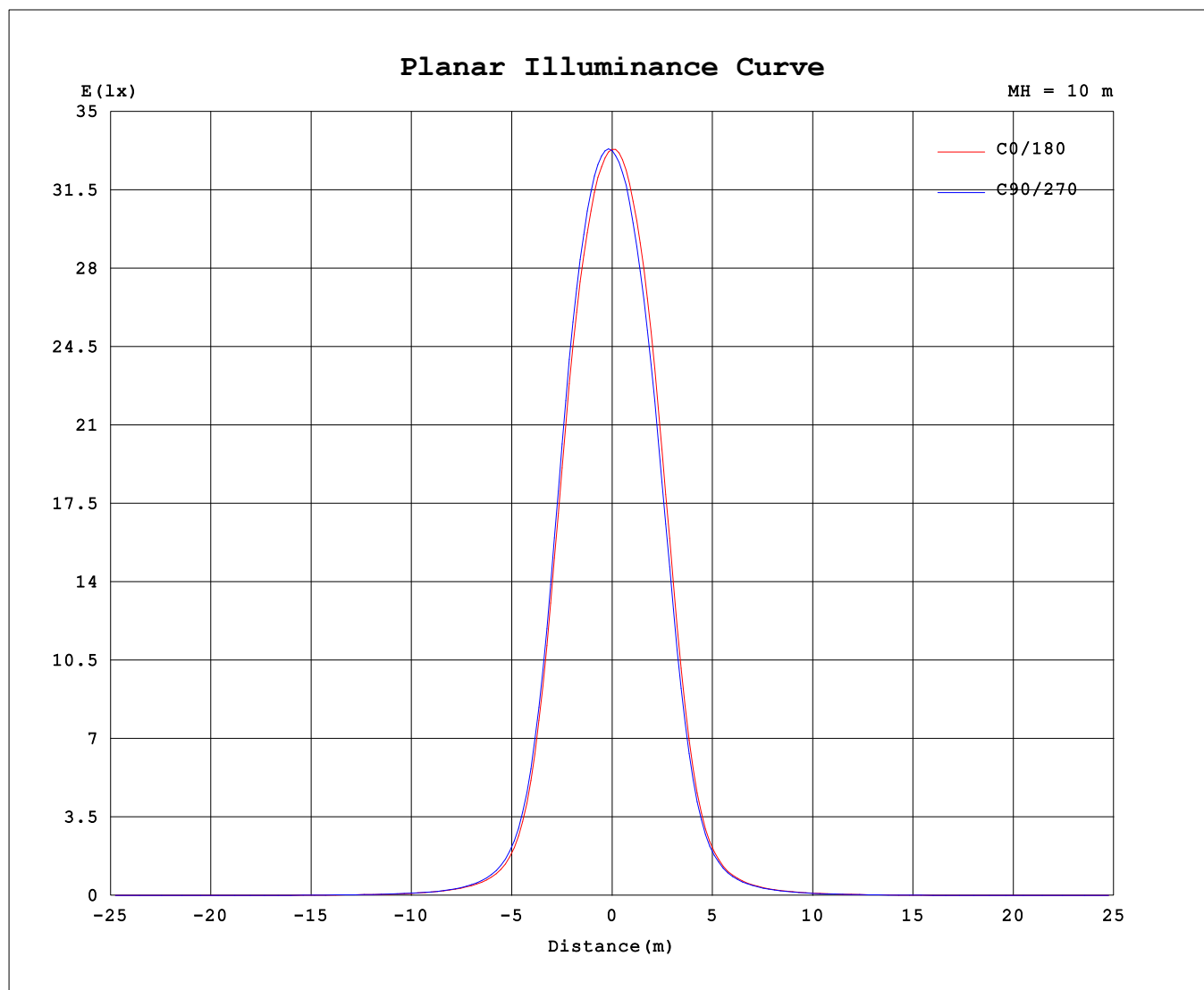
AvgL	cd/m2
L_0~180 (65) av	8370
L_0~180 (75) av	5183
L_0~180 (85) av	1886
L_90~270 (65) av	8763
L_90~270 (75) av	5601
L_90~270 (85) av	500
L_45 (65) av	8593
L_45 (75) av	5391
L_45 (85) av	354

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-12-26

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: 2023-12-26

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	3326	3326	3326	3326	3326	3326	3326	3326
3.0	3262	3299	3315	3314	3295	3263	3241	3242
6.0	3103	3173	3194	3193	3147	3092	3053	3058
9.0	2840	2912	2947	2957	2900	2829	2762	2787
12.0	2438	2514	2557	2570	2509	2422	2358	2366
15.0	1890	1959	2004	2026	1985	1890	1841	1834
18.0	1295	1355	1384	1431	1394	1310	1273	1262
21.0	776.0	823.9	860.0	896.9	851.7	800.5	779.7	763.5
24.0	433.2	462.9	487.6	524.8	482.4	451.6	442.3	429.7
27.0	244.4	257.8	281.0	305.4	274.2	251.6	253.5	245.9
30.0	150.2	158.6	171.7	186.3	166.8	152.8	155.8	152.3
33.0	101.6	106.7	113.0	121.4	110.3	102.5	103.9	102.5
36.0	72.45	74.83	77.87	82.52	77.08	73.21	72.82	72.27
39.0	52.28	53.54	54.98	57.75	55.26	52.99	52.19	51.57
42.0	38.19	38.83	39.95	41.72	40.56	38.81	38.17	37.70
45.0	28.31	28.84	29.78	31.29	30.57	28.98	28.45	28.19
48.0	21.23	21.86	22.69	23.90	23.38	22.14	21.65	21.35
51.0	16.03	16.63	17.29	18.30	17.95	17.04	16.52	16.28
54.0	11.89	12.28	12.83	13.54	13.40	12.84	12.38	12.12
57.0	8.554	8.725	9.163	9.604	9.553	9.321	9.011	8.781
60.0	6.405	6.492	6.833	7.050	7.038	6.972	6.835	6.626
63.0	5.088	5.257	5.613	5.742	5.663	5.609	5.518	5.295
66.0	3.971	4.194	4.547	4.658	4.512	4.475	4.387	4.165
69.0	3.020	3.254	3.586	3.668	3.486	3.461	3.383	3.172
72.0	2.239	2.423	2.699	2.753	2.577	2.549	2.500	2.331
75.0	1.617	1.754	1.965	1.992	1.871	1.845	1.804	1.664
78.0	1.096	1.177	1.248	1.339	1.299	1.255	1.156	1.109
81.0	0.6523	0.6197	0.6138	0.7400	0.8094	0.6823	0.5360	0.5818
84.0	0.2889	0.1659	0.0646	0.1736	0.3762	0.1610	0.0582	0.0843
87.0	0.0626	0.0318	0.0549	0.0373	0.0561	0.0334	0.0533	0.0344
90.0	0.0500	0.0366	0.0524	0.0360	0.0372	0.0337	0.0459	0.0338

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-12-26

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: