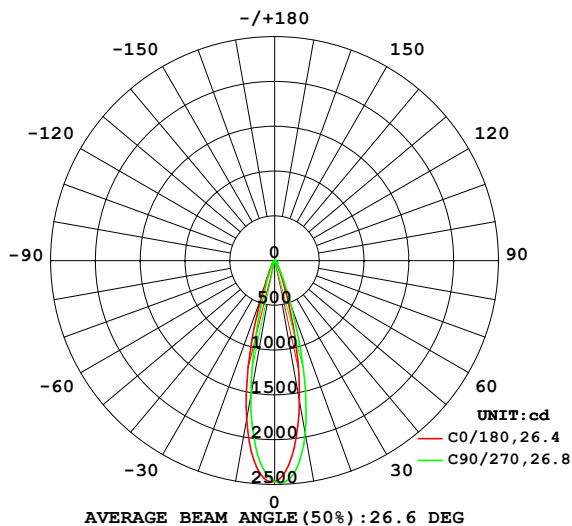


LUMINAIRE PHOTOMETRIC TEST REPORT

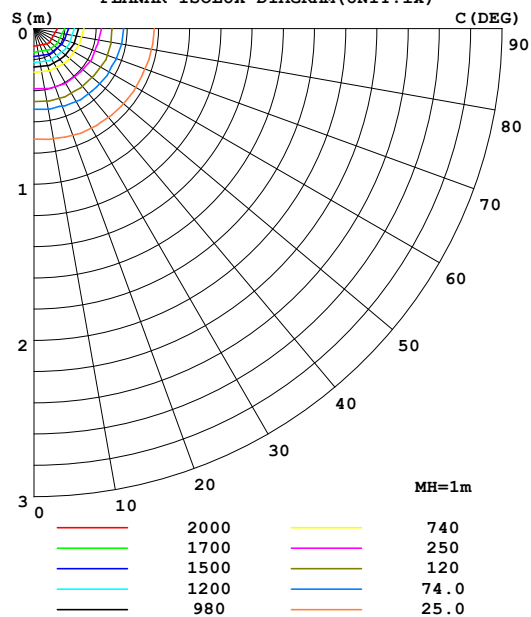
Test:U:240.3V I:0.0414A P:9.2W PF:0.9253 Freq:49.99Hz		
UTHDi:0.16% ITHDi:18.42% KDisp:0.9417 Lamp Flux:622.423x1 lm		
NAME: MD10-09-XX-16 4000K RA90 18D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 26mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 67.67 lm/W
MODEL		I _{max} (cd)	2484	S/MH (C0/180)	0.45	
NOMINAL POWER(W)	9	LOR (%)	100.0	S/MH (C90/270)	0.39	
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	622.42	η UP,DN (C0-180)	0.0,54.5	
NOMINAL FLUX(lm)	622.423	CIE CLASS	DIRECT	η UP,DN (C180-360)	0.0,45.5	
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.00	
TEST VOLTAGE(V)	240.27	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: 2024-03-16

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	1602	1790	1963	1932	1808	1627	1542	1484	0- 10	199.1	199.1	32,32
20	353.4	451.9	557.7	540.9	448.6	329.8	288.3	284.7	10- 20	263.9	463.0	74.4,74.4
30	73.14	91.58	104.0	99.61	84.18	72.84	66.33	65.10	20- 30	84.52	547.5	88,88
40	34.28	38.81	41.86	39.54	35.31	32.98	31.43	31.94	30- 40	32.68	580.2	93.2,93.2
50	18.10	20.56	22.75	21.45	19.74	18.25	16.65	16.64	40- 50	20.86	601.0	96.6,96.6
60	7.888	8.793	9.957	9.368	8.749	8.110	7.447	7.532	50- 60	11.73	612.8	98.4,98.4
70	3.729	4.106	4.751	4.347	4.073	3.893	3.559	3.714	60- 70	5.848	618.6	99.4,99.4
80	1.711	2.005	2.310	2.052	1.898	1.770	1.463	1.620	70- 80	3.017	621.6	99.9,99.9
90	0.0217	0.0173	0.0281	0.0151	0.0166	0.0161	0.0254	0.0158	80- 90	0.7937	622.4	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): 591.72 lm

%lum = 95.1%

%lamp = 95.1%

Conical surface Flux(120deg): 612.76 lm

%lum = 98.4%

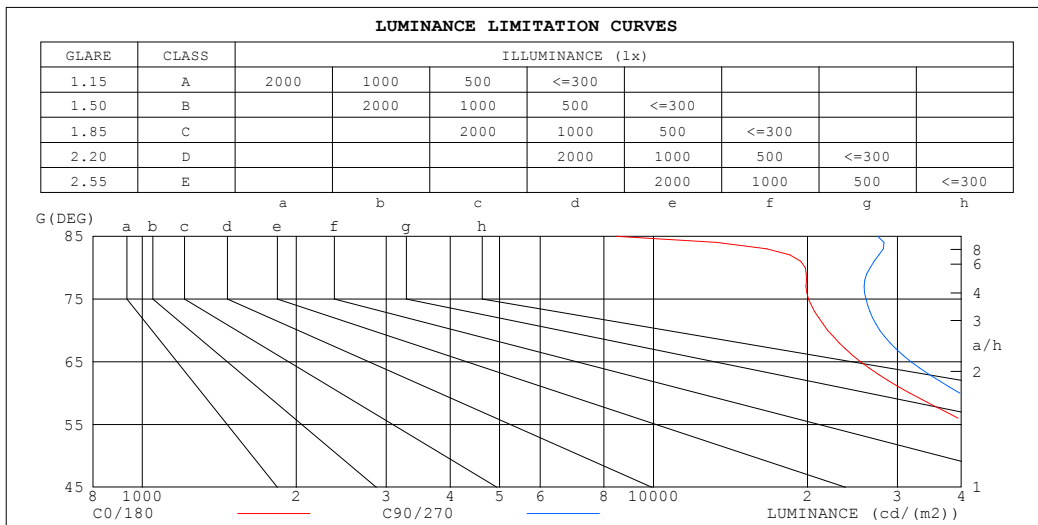
%lamp = 98.4%

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2024-03-16

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:240.3V I:0.0414A P:9.2W PF:0.9253 Freq:49.99Hz		
UTHDi:0.16% ITHDi:18.42% KDisp:0.9417 Lamp Flux:622.423x1 lm		
NAME: MD10-09-XX-16 4000K RA90 18D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 26mm	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	8441	27446
80	19812	26542
75	20104	26044
70	21918	27719
65	25402	31876
60	31717	39735
55	41869	52400
50	56611	70619
45	73477	88879

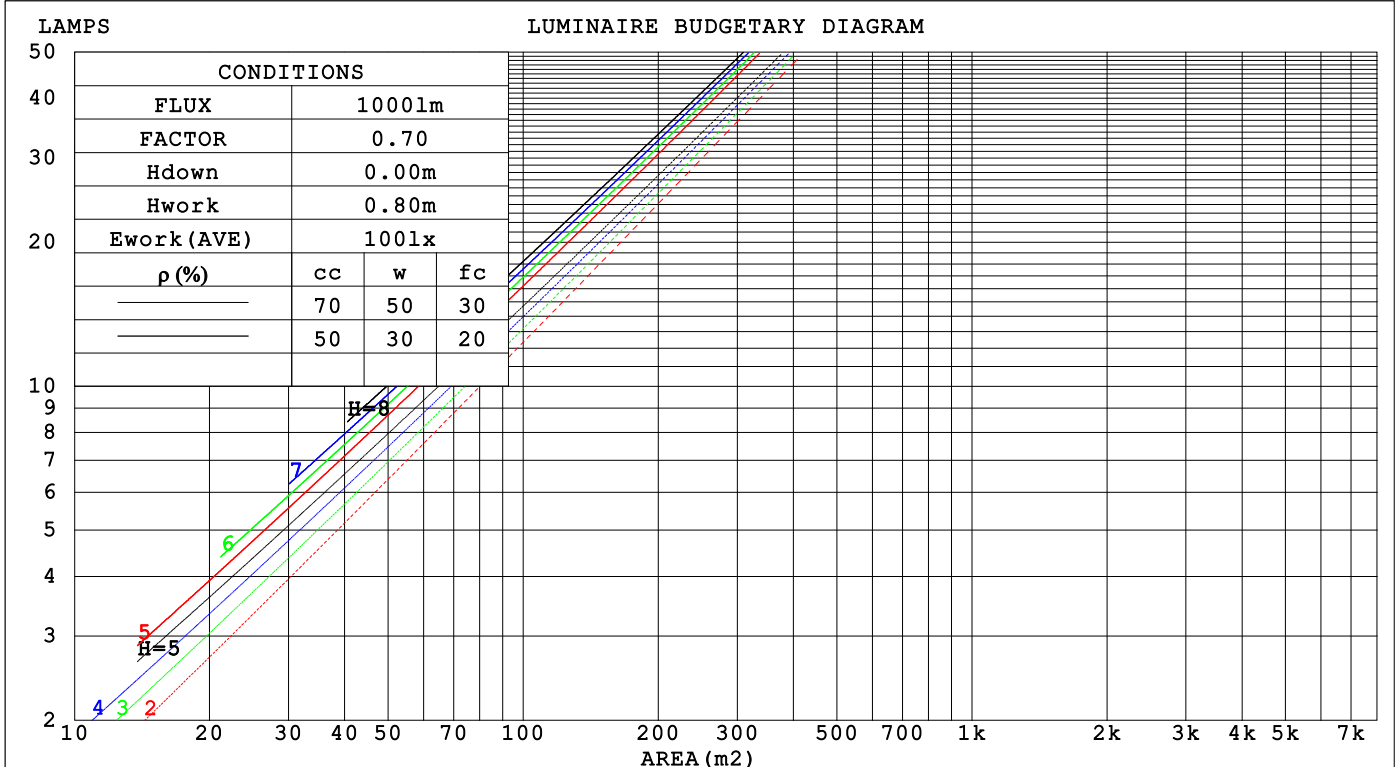
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2024-03-16

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:240.3V I:0.0414A P:9.2W PF:0.9253 Freq:49.99Hz		
UTHDi:0.16% ITHDi:18.42% KDisp:0.9417		
Lamp Flux:622.423x1 lm		
NAME: MD10-09-XX-16 4000K RA90 18D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 26mm	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:2024-03-16

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:240.3V I:0.0414A P:9.2W PF:0.9253 Freq:49.99Hz			UTHDi:0.16% ITHDi:18.42% KDisp:0.9417			Lamp Flux:622.423x1 lm		
NAME: MD10-09-XX-16 4000K RA90 18D			TYPE:			WEIGHT:		
SPEC.:			DIM.:			SERIAL No.:		
MFR.: Norming Lighting			SUR.: 26mm			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	.151	.086	.027	.144	.082	.026	.132	.076	.024	.121	.070	.022	.110	.064	.021		
2.0	.141	.077	.024	.135	.075	.023	.125	.070	.022	.116	.065	.020	.107	.060	.019		
3.0	.132	.070	.021	.127	.068	.020	.118	.064	.019	.110	.060	.019	.103	.057	.018		
4.0	.123	.064	.019	.119	.062	.018	.112	.059	.018	.105	.056	.017	.099	.054	.016		
5.0	.116	.059	.017	.113	.058	.017	.106	.055	.016	.100	.053	.016	.095	.051	.015		
6.0	.109	.055	.016	.106	.054	.015	.101	.052	.015	.096	.050	.015	.091	.048	.014		
7.0	.104	.051	.015	.101	.050	.014	.096	.049	.014	.092	.047	.014	.088	.046	.013		
8.0	.098	.048	.014	.096	.047	.013	.092	.046	.013	.088	.045	.013	.084	.043	.013		
9.0	.094	.045	.013	.092	.045	.013	.088	.044	.012	.085	.042	.012	.081	.041	.012		
10.0	.090	.043	.012	.088	.042	.012	.085	.041	.012	.082	.040	.012	.079	.040	.011		

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	.126	.099	.093	.087	.057	.054	.051	.018	.017	.016		
2.0	.152	.133	.116	.130	.114	.101	.089	.079	.070	.051	.046	.041	.017	.015	.013		
3.0	.138	.113	.094	.118	.098	.081	.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	.116	.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	.099	.068	.046	.086	.059	.040	.059	.041	.029	.034	.024	.017	.011	.008	.006		
8.0	.093	.061	.040	.080	.053	.035	.055	.037	.025	.032	.022	.015	.010	.007	.005		
9.0	.087	.056	.035	.075	.049	.030	.052	.034	.021	.030	.020	.013	.010	.007	.004		
10.0	.082	.051	.030	.071	.044	.027	.049	.031	.019	.029	.018	.011	.009	.006	.004		

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-03-16

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:240.3V I:0.0414A P:9.2W PF:0.9253 Freq:49.99Hz UTHDi:0.16% ITHDi:18.42% KDisp:0.9417Lamp Flux:622.423x1 lm											
NAME: MD10-09-XX-16 4000K RA90 18D					TYPE:			WEIGHT:			
SPEC.:					DIM.:			SERIAL No.:			
MFR.: Norming Lighting					SUR.: 26mm			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	2H	19.8	20.6	20.0	20.7	20.9	20.7	21.4	20.9	21.6	21.7
	3H	20.2	20.9	20.4	21.1	21.2	21.1	21.8	21.4	22.0	22.2
	4H	20.4	21.0	20.6	21.2	21.4	21.3	22.0	21.6	22.2	22.4
	6H	20.5	21.1	20.8	21.3	21.6	21.5	22.1	21.8	22.4	22.6
	8H	20.5	21.1	20.8	21.4	21.6	21.6	22.2	21.9	22.4	22.7
	12H	20.5	21.1	20.8	21.4	21.6	21.7	22.2	22.0	22.5	22.8
4H	2H	20.0	20.7	20.3	20.9	21.1	20.8	21.4	21.1	21.7	21.9
	3H	20.5	21.1	20.8	21.3	21.6	21.3	21.9	21.6	22.2	22.4
	4H	20.7	21.3	21.1	21.6	21.9	21.6	22.1	22.0	22.4	22.7
	6H	21.0	21.4	21.4	21.8	22.1	21.9	22.4	22.3	22.7	23.0
	8H	21.1	21.5	21.5	21.9	22.2	22.1	22.5	22.5	22.8	23.2
	12H	21.1	21.5	21.5	21.8	22.2	22.2	22.6	22.6	22.9	23.3
8H	4H	20.8	21.2	21.2	21.6	22.0	21.6	22.1	22.0	22.4	22.8
	6H	21.2	21.5	21.6	21.9	22.3	22.0	22.4	22.5	22.8	23.2
	8H	21.3	21.6	21.8	22.1	22.5	22.3	22.6	22.7	23.0	23.4
	12H	21.4	21.6	21.8	22.1	22.5	22.5	22.7	22.9	23.2	23.6
12H	4H	20.8	21.2	21.2	21.6	22.0	21.6	22.0	22.0	22.4	22.8
	6H	21.2	21.5	21.6	21.9	22.4	22.1	22.4	22.5	22.8	23.2
	8H	21.4	21.7	21.8	22.1	22.6	22.3	22.6	22.8	23.0	23.5
Variations with the observer position at spacings(CIE Pub.117):											
S = 1.0H	+ 0.8 / - 1.1					+ 0.7 / - 0.9					
1.5H	+ 0.7 / - 0.7					+ 0.9 / - 0.8					
2.0H	+ 1.8 / - 1.4					+ 1.8 / - 1.4					

CIE Pub.117, 622.4 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = -1.6)
Area: 0.0005 m2

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-03-16

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:240.3V I:0.0414A P:9.2W PF:0.9253 Freq:49.99Hz		
UTHDi:0.16% ITHDi:18.42% KDisp:0.9417 Lamp Flux:622.423x1 lm		
NAME: MD10-09-XX-16 4000K RA90 18D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 26mm	Shielding Angle:

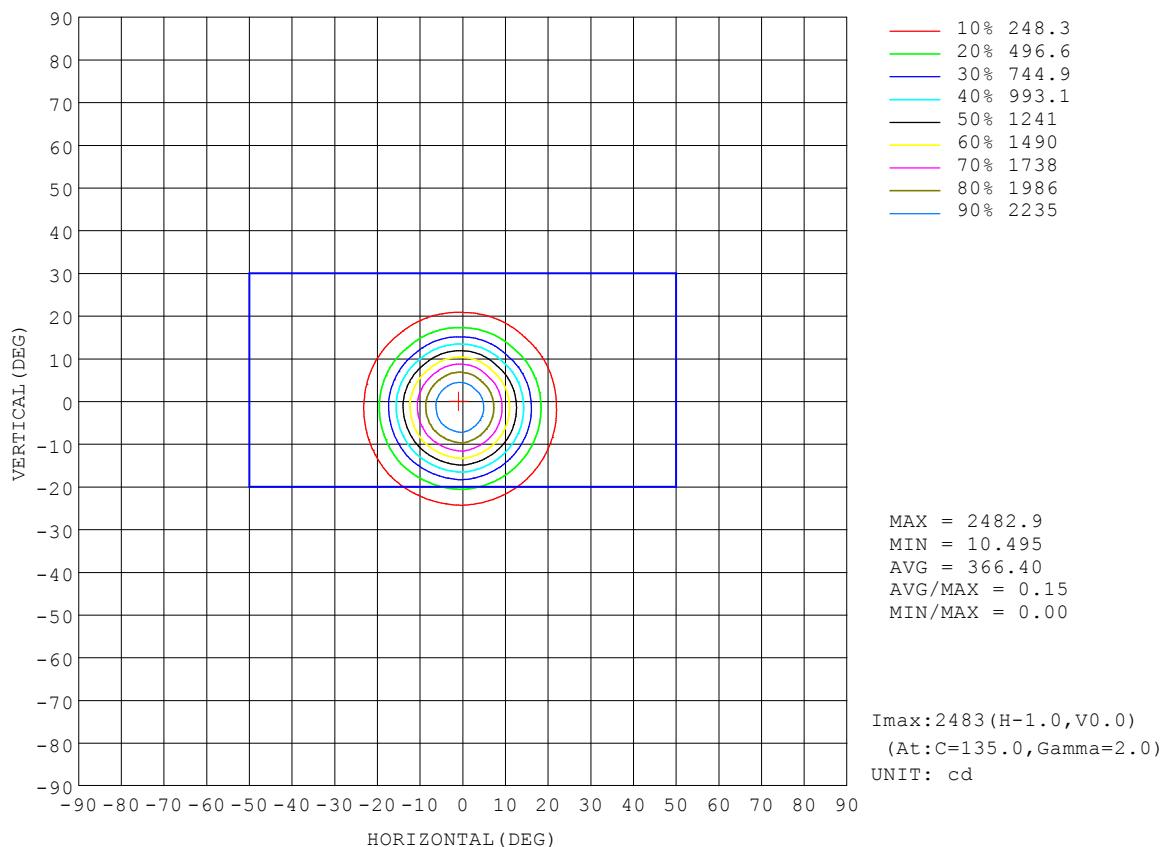
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	87	81	77	87	81	77	86	80	77	73
0.80	95	89	85	94	88	85	93	88	85	81
1.00	99	93	90	98	93	90	97	93	89	85
1.25	103	98	94	102	97	94	100	96	93	89
1.50	106	101	98	105	100	97	102	99	96	92
2.00	108	104	101	107	103	100	104	101	99	93
2.50	110	106	103	109	105	102	105	103	100	95
3.00	112	108	105	110	107	104	107	104	102	96
4.00	114	111	109	112	109	107	108	106	105	98
5.00	115	113	111	113	111	109	109	107	106	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: 2024-03-16

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:240.3V I:0.0414A P:9.2W PF:0.9253 Freq:49.99Hz		
UTHDi:0.16% ITHDi:18.42% KDisp:0.9417 Lamp Flux:622.423x1 lm		
NAME: MD10-09-XX-16 4000K RA90 18D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 26mm	Shielding Angle:

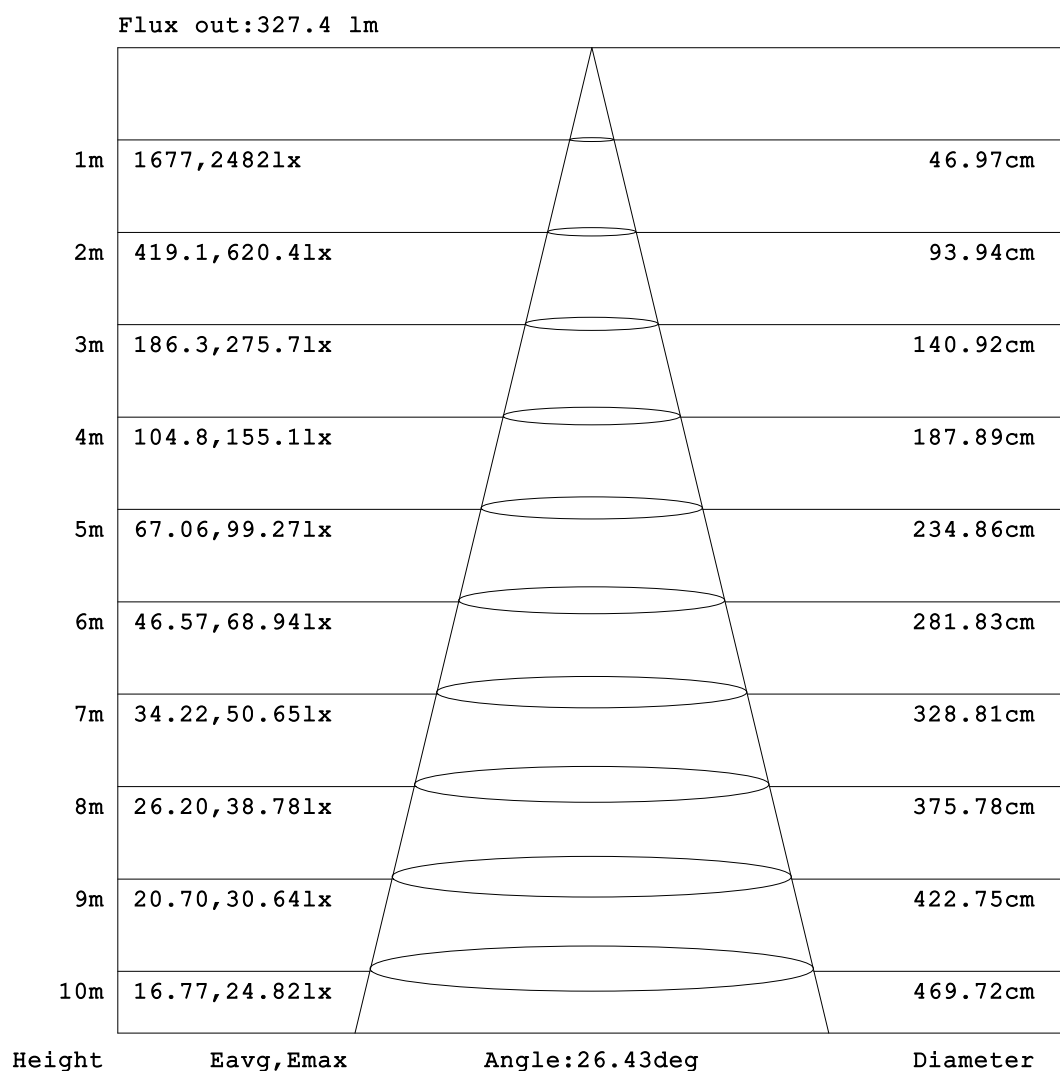


C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-03-16

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:240.3V I:0.0414A P:9.2W PF:0.9253 Freq:49.99Hz		
UTHDi:0.16% ITHDi:18.42% KDisp:0.9417 Lamp Flux:622.423x1 lm		
NAME: MD10-09-XX-16 4000K RA90 18D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 26mm	Shielding Angle:



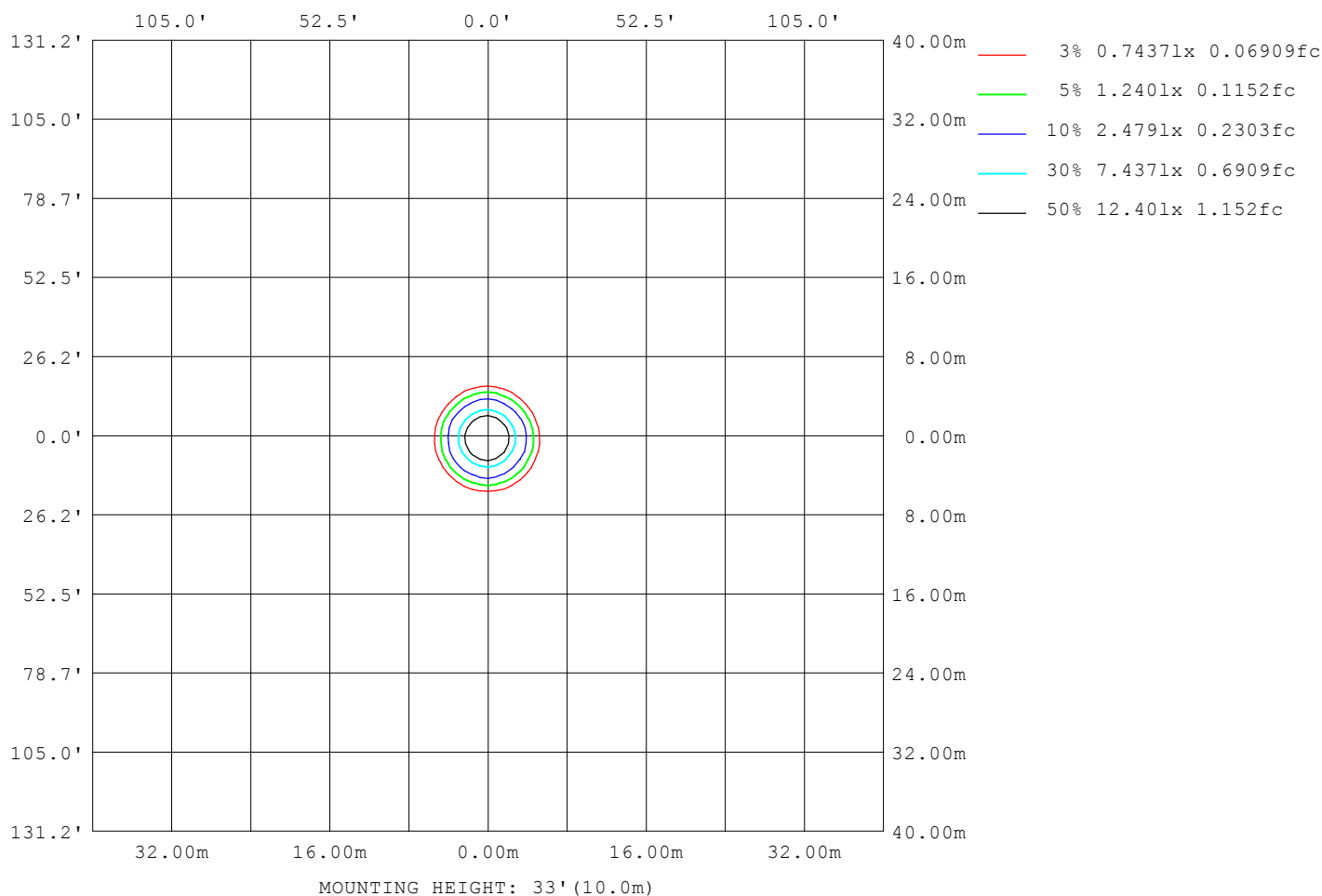
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-03-16

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:240.3V I:0.0414A P:9.2W PF:0.9253 Freq:49.99Hz		
UTHDi:0.16% ITHDi:18.42% KDisp:0.9417		Lamp Flux:622.423x1 lm
NAME: MD10-09-XX-16 4000K RA90 18D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 26mm	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2024-03-16

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:240.3V I:0.0414A P:9.2W PF:0.9253 Freq:49.99Hz		
UTHDi:0.16% ITHDi:18.42% KDisp:0.9417 Lamp Flux:622.423x1 lm		
NAME: MD10-09-XX-16 4000K RA90 18D	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming Lighting	SUR.: 26mm	Shielding Angle:

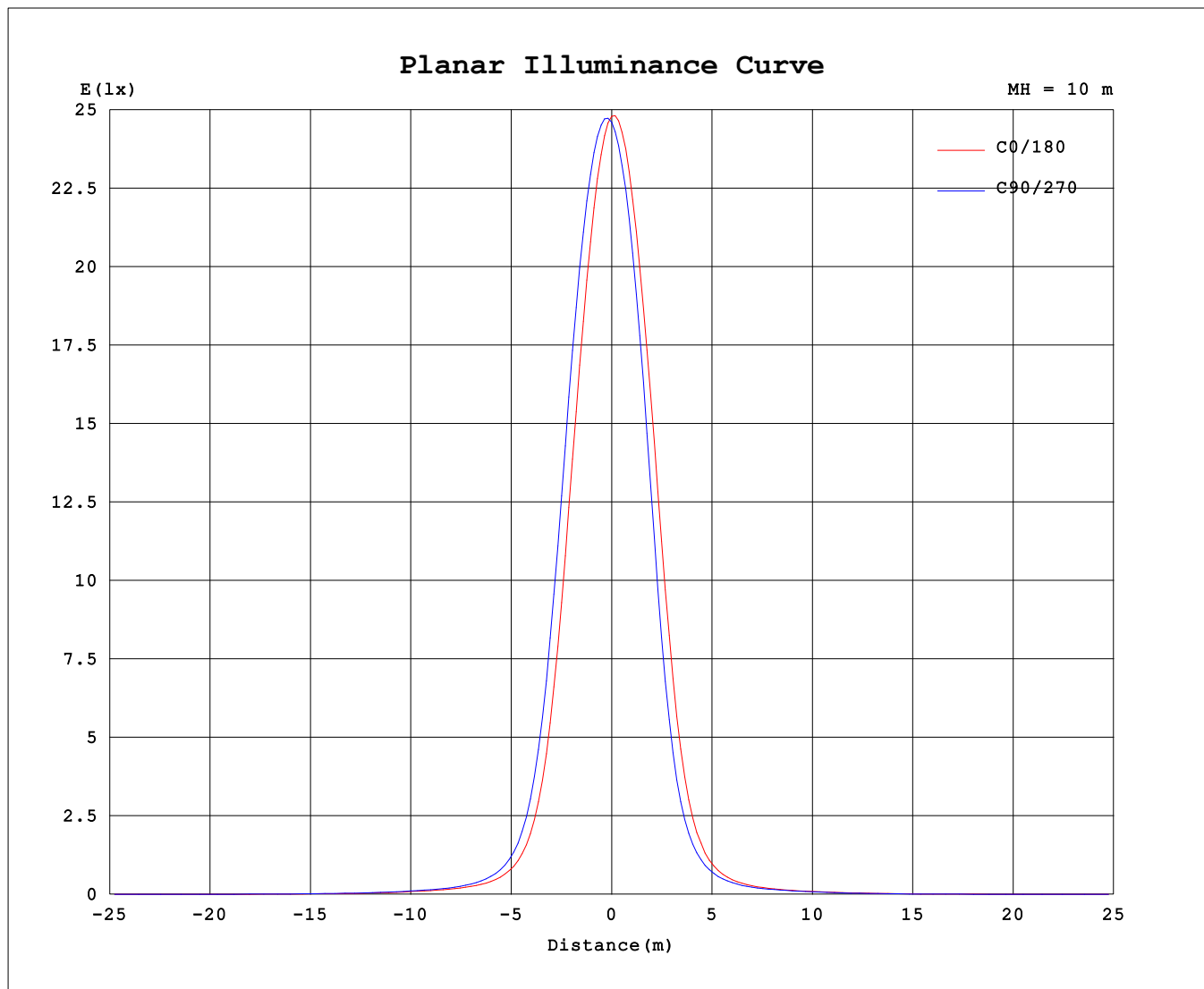
AvgL	cd/m2
L_0~180 (65) av	26547
L_0~180 (75) av	21000
L_0~180 (85) av	12892
L_90~270 (65) av	28093
L_90~270 (75) av	22487
L_90~270 (85) av	15102
L_45 (65) av	27123
L_45 (75) av	21805
L_45 (85) av	13830

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-03-16

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: 2024-03-16

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	2466	2466	2466	2466	2466	2466	2466	2466
3.0	2355	2416	2467	2469	2425	2376	2338	2320
6.0	2102	2230	2338	2332	2240	2142	2082	2038
9.0	1741	1919	2078	2056	1926	1775	1697	1636
12.0	1311	1507	1697	1664	1530	1311	1215	1166
15.0	872.1	1051	1235	1202	1071	846.2	754.8	731.0
18.0	518.2	650.1	793.7	769.0	656.1	486.6	425.5	417.9
21.0	291.9	375.0	463.6	449.5	368.9	272.9	239.6	236.4
24.0	169.9	221.8	264.0	256.0	214.2	162.1	145.1	141.7
27.0	106.5	135.8	158.9	153.6	127.7	104.6	94.81	93.38
30.0	73.14	91.58	104.0	99.61	84.18	72.84	66.33	65.10
33.0	54.25	65.96	73.62	69.93	60.01	53.59	49.57	49.45
36.0	43.33	50.83	55.51	52.74	46.13	42.03	39.44	39.98
39.0	36.20	41.24	44.63	42.20	37.46	34.79	33.13	33.67
42.0	30.79	34.62	37.25	35.19	31.69	29.80	28.30	28.67
45.0	25.84	29.04	31.50	29.71	26.97	25.43	23.79	23.91
48.0	21.11	23.85	26.16	24.66	22.59	21.12	19.42	19.39
51.0	16.68	19.03	21.06	19.90	18.33	16.88	15.37	15.38
54.0	13.02	14.77	16.41	15.61	14.43	13.20	12.01	12.08
57.0	10.10	11.36	12.72	12.08	11.21	10.33	9.408	9.519
60.0	7.888	8.793	9.957	9.368	8.749	8.110	7.447	7.532
63.0	6.211	6.873	7.862	7.332	6.867	6.426	5.933	6.015
66.0	4.962	5.468	6.274	5.818	5.455	5.155	4.757	4.862
69.0	4.005	4.404	5.088	4.668	4.375	4.174	3.827	3.972
72.0	3.235	3.583	4.149	3.774	3.539	3.395	3.066	3.238
75.0	2.588	2.906	3.378	3.046	2.847	2.735	2.442	2.600
78.0	2.060	2.339	2.700	2.423	2.251	2.164	1.884	2.031
81.0	1.510	1.818	2.115	1.876	1.711	1.547	1.207	1.362
84.0	0.6908	1.124	1.480	1.283	1.042	0.7036	0.3299	0.4110
87.0	0.0285	0.1968	0.5432	0.4486	0.2248	0.0219	0.0251	0.0110
90.0	0.0217	0.0173	0.0281	0.0151	0.0166	0.0161	0.0254	0.0158

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-03-16

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: