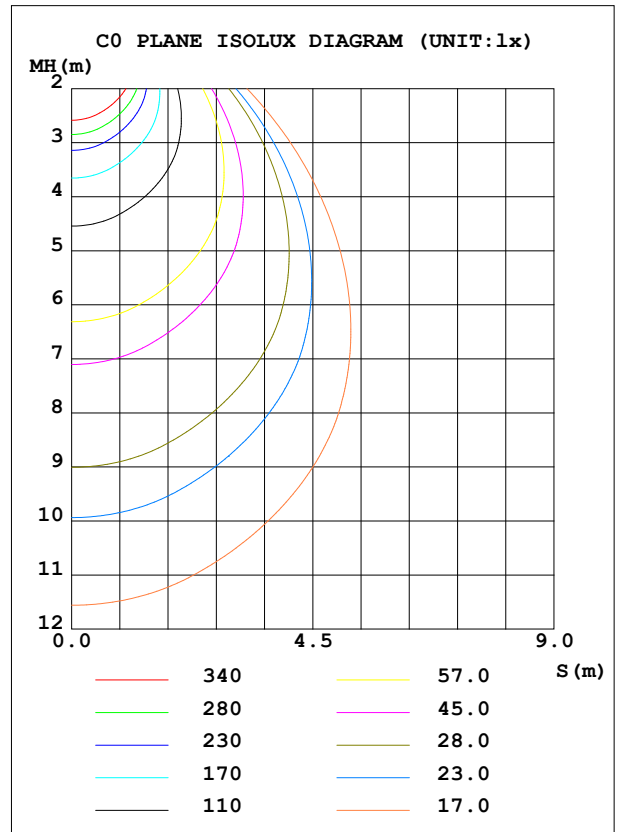
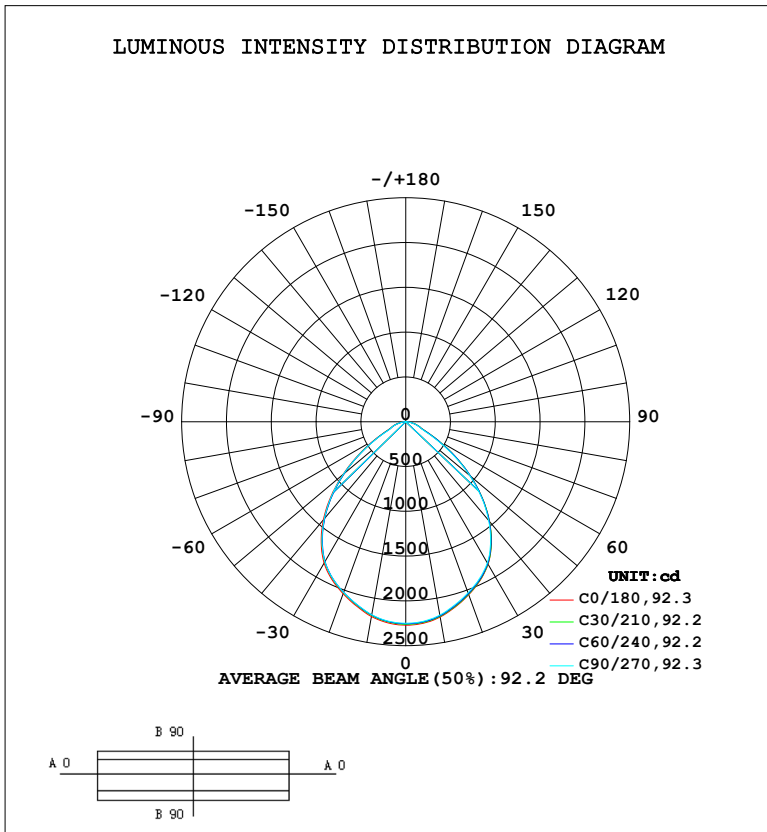


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:220.13V I:0.1683A P:36.283W PF:0.9795 Freq:50.00Hz		
Lamp Flux:4587.06x1 lm		
NAME: HYD-219C-40W-4000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	

DATA OF LAMP		PHOTOMETRIC DATA Eff: 126.42 lm/W			
MODEL		I _{max} (cd)	2271	S/MH (C0/180)	1.20
NOMINAL POWER (W)		LOR (%)	100.0	S/MH (C90/270)	1.20
RATED VOLTAGE (V)	--	TOTAL FLUX (lm)	4587.1	η UP, DN (C0-180)	0.0, 50.4
NOMINAL FLUX (lm)	4587.06	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 49.6
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	--	η down (%)	100.0	CIBSE SHR MAX	1.30



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature: 25.3°C
 Operators: DAMIN
 Test Date: 2023-08-16

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity: 65.0%
 Test Distance: 9.000m [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	2214	2204	2192	2182	2207	2191	2187	2184	0- 10	212.1	212.1	4.62,4.62
20	2056	2048	2033	2023	2044	2027	2027	2026	10- 20	597.2	809.3	17.6,17.6
30	1837	1835	1820	1806	1823	1801	1805	1809	20- 30	891.3	1701	37.1,37.1
40	1454	1457	1442	1425	1431	1404	1415	1429	30- 40	1022	2723	59.4,59.4
50	940.6	948.7	931.1	912.9	913.4	886.6	902.4	922.0	40- 50	909.5	3633	79.2,79.2
60	410.2	423.1	383.2	393.2	395.7	374.3	364.1	397.6	50- 60	576.4	4209	91.8,91.8
70	164.2	164.7	155.6	157.1	161.5	153.4	151.4	157.9	60- 70	235.7	4445	96.9,96.9
80	69.83	67.59	56.22	61.49	68.52	58.32	53.60	63.38	70- 80	115.2	4560	99.4,99.4
90	0.6164	0.5433	0.2780	0.3726	0.7893	0.8958	0.7028	0.9443	80- 90	27.10	4587	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): 3207.6 lm

%lum = 69.9%

%lamp = 69.9%

Conical surface Flux(120deg): 4209 lm

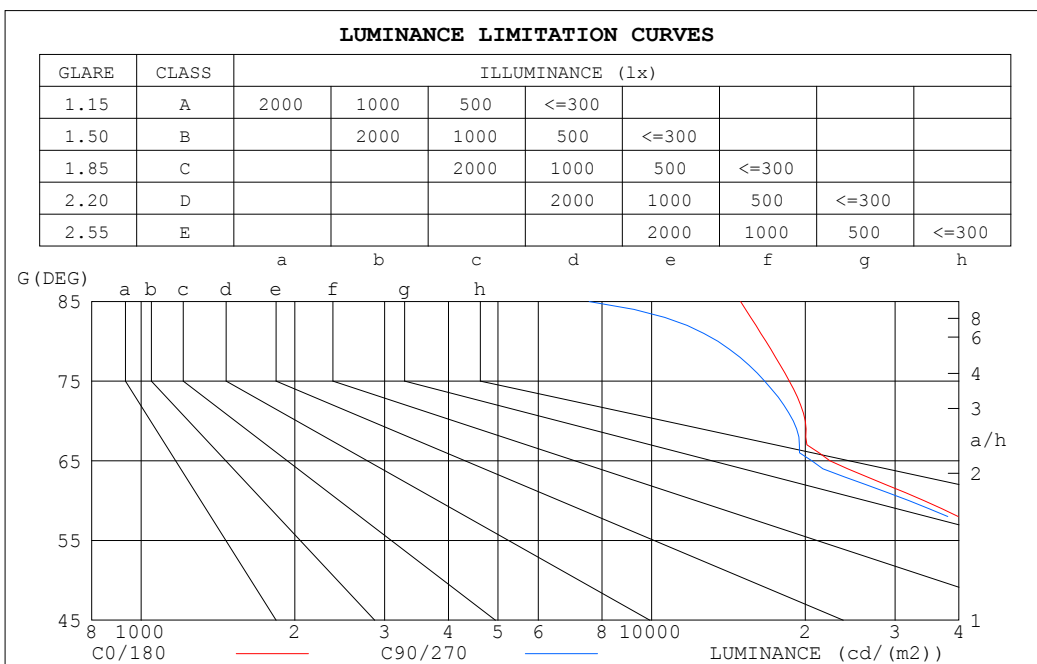
%lum = 91.8%

%lamp = 91.8%

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:2023-08-16

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity:65.0%
 Test Distance:9.000m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES



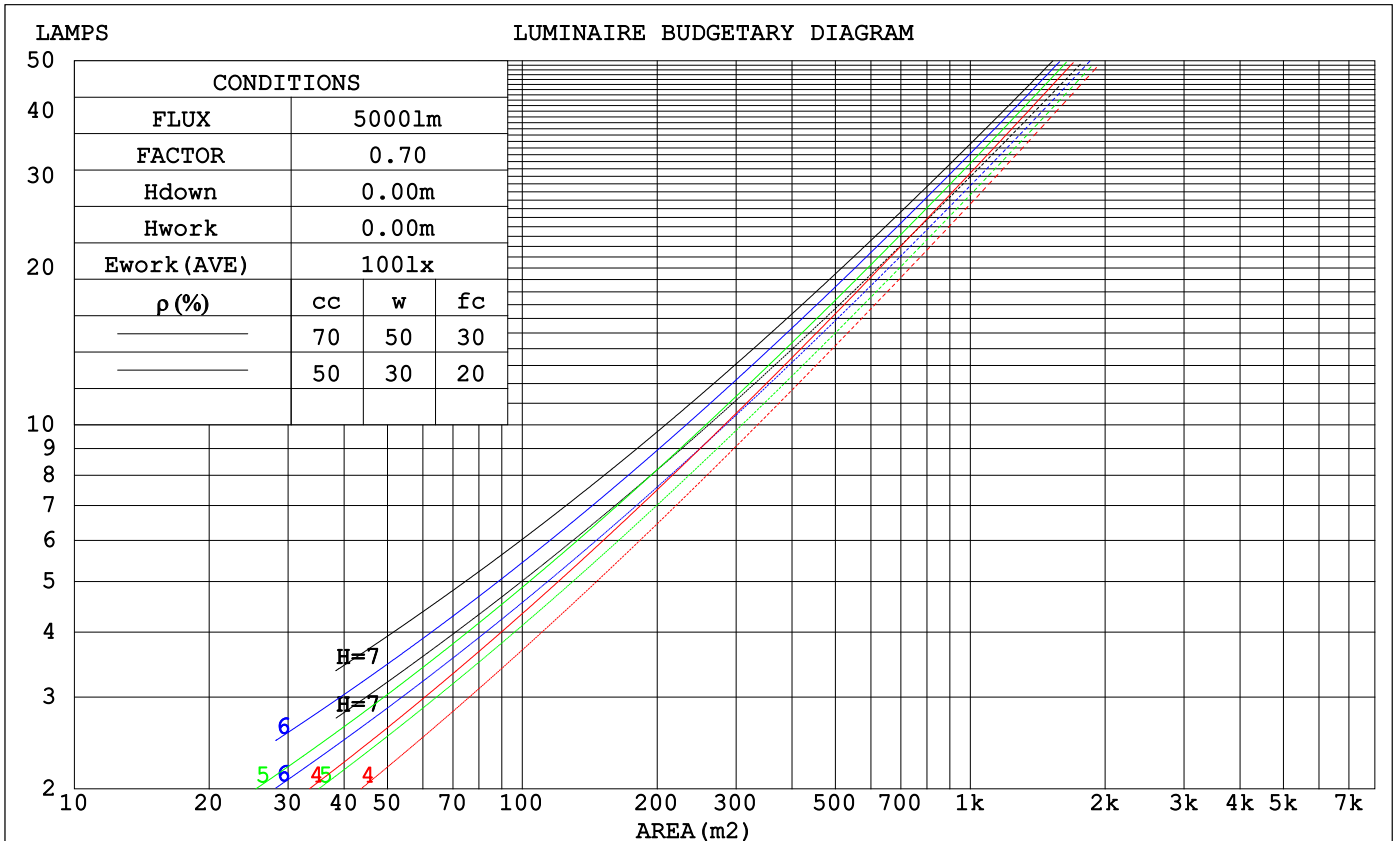
LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	14949	7548
80	16755	13489
75	18614	16655
70	20005	18957
65	22365	20613
60	34183	31936
55	48339	47148
50	60974	60357
45	71248	70602

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature: 25.3°C
 Operators: DAMIN
 Test Date: 2023-08-16

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity: 65.0%
 Test Distance: 9.000m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1.0	1.07	1.04	1.01	1.05	1.02	.99	1.01	.98	.96	.97	.95	.93	.93	.92	.90	.88
2.0	.96	.90	.85	.94	.89	.84	.91	.86	.83	.87	.84	.81	.85	.82	.79	.77
3.0	.86	.79	.74	.84	.78	.73	.82	.76	.72	.79	.74	.70	.77	.73	.69	.67
4.0	.77	.70	.64	.76	.69	.64	.74	.68	.63	.72	.66	.62	.70	.65	.61	.59
5.0	.70	.62	.56	.69	.62	.56	.67	.61	.56	.65	.59	.55	.63	.58	.54	.53
6.0	.64	.56	.50	.63	.55	.50	.61	.54	.49	.60	.54	.49	.58	.53	.49	.47
7.0	.58	.50	.45	.58	.50	.45	.56	.49	.44	.55	.49	.44	.53	.48	.44	.42
8.0	.54	.46	.40	.53	.46	.40	.52	.45	.40	.50	.44	.40	.49	.44	.40	.38
9.0	.49	.42	.37	.49	.42	.37	.48	.41	.36	.47	.41	.36	.46	.40	.36	.34
10.0	.46	.38	.34	.45	.38	.33	.44	.38	.33	.43	.37	.33	.43	.37	.33	.31



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:2023-08-16

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity:65.0%
 Test Distance:9.000m [K=1.0000]
 Remarks:

WEC AND CCEC

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.248	.141	.045	.241	.138	.044	.228	.131	.042	.216	.125	.040	.205	.119	.038	
2.0	.240	.131	.040	.234	.129	.040	.223	.124	.038	.212	.119	.037	.203	.115	.036	
3.0	.227	.121	.036	.222	.119	.036	.212	.115	.035	.203	.111	.034	.195	.108	.033	
4.0	.214	.111	.033	.210	.110	.032	.201	.107	.032	.193	.104	.031	.186	.101	.031	
5.0	.202	.103	.030	.198	.101	.030	.190	.099	.029	.183	.096	.029	.176	.094	.028	
6.0	.190	.095	.027	.186	.094	.027	.179	.092	.027	.173	.090	.026	.167	.088	.026	
7.0	.179	.088	.025	.176	.088	.025	.170	.086	.025	.164	.084	.024	.159	.082	.024	
8.0	.169	.083	.023	.166	.082	.023	.161	.080	.023	.155	.079	.023	.151	.077	.023	
9.0	.160	.077	.022	.157	.077	.022	.152	.075	.021	.148	.074	.021	.143	.073	.021	
10.0	.151	.073	.020	.149	.072	.020	.145	.071	.020	.140	.070	.020	.136	.069	.020	

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	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	.176	.157	.139	.151	.134	.120	.103	.093	.083	.059	.054	.048	.019	.017	.016	
2.0	.165	.132	.104	.142	.114	.090	.097	.079	.063	.056	.046	.037	.018	.015	.012	
3.0	.156	.114	.080	.134	.098	.070	.092	.068	.049	.053	.040	.029	.017	.013	.009	
4.0	.148	.100	.064	.127	.087	.055	.087	.060	.039	.051	.035	.023	.016	.012	.008	
5.0	.141	.089	.051	.121	.077	.045	.083	.054	.032	.048	.032	.019	.016	.010	.006	
6.0	.134	.081	.043	.115	.070	.037	.080	.049	.026	.046	.029	.016	.015	.009	.005	
7.0	.128	.074	.036	.110	.064	.031	.076	.045	.022	.044	.026	.013	.014	.009	.004	
8.0	.122	.068	.031	.105	.059	.027	.073	.041	.019	.042	.024	.011	.014	.008	.004	
9.0	.117	.063	.027	.100	.055	.023	.070	.038	.017	.041	.023	.010	.013	.007	.003	
10.0	.111	.059	.024	.096	.051	.021	.067	.036	.015	.039	.021	.009	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:2023-08-16

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity:65.0%
 Test Distance:9.000m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

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	25.8	27.1	26.0	27.3	27.5	25.7	27.0	25.9	27.2	27.4
3H	26.0	27.2	26.3	27.5	27.7	25.9	27.1	26.2	27.3	27.6
4H	26.2	27.3	26.5	27.6	27.8	26.0	27.2	26.3	27.4	27.6
6H	26.3	27.3	26.6	27.6	27.9	26.1	27.1	26.4	27.4	27.7
8H	26.3	27.3	26.6	27.6	27.9	26.0	27.1	26.4	27.4	27.6
12H	26.3	27.3	26.6	27.6	27.9	26.0	27.0	26.4	27.3	27.6
4H 2H	25.9	27.0	26.2	27.3	27.5	25.8	26.9	26.1	27.2	27.4
3H	26.3	27.3	26.6	27.5	27.8	26.1	27.1	26.5	27.4	27.7
4H	26.5	27.4	26.9	27.7	28.0	26.3	27.2	26.7	27.5	27.9
6H	26.7	27.5	27.1	27.8	28.2	26.5	27.3	26.8	27.6	28.0
8H	26.8	27.5	27.2	27.9	28.2	26.5	27.2	26.9	27.6	28.0
12H	26.8	27.5	27.2	27.9	28.3	26.5	27.1	26.9	27.5	27.9
8H 4H	26.5	27.3	26.9	27.6	28.0	26.4	27.1	26.8	27.5	27.8
6H	26.8	27.4	27.3	27.8	28.2	26.6	27.2	27.0	27.6	28.0
8H	26.9	27.5	27.4	27.9	28.3	26.6	27.2	27.1	27.6	28.0
12H	27.0	27.5	27.5	27.9	28.4	26.7	27.1	27.1	27.6	28.0
12H 4H	26.5	27.2	26.9	27.5	27.9	26.3	27.0	26.8	27.4	27.8
6H	26.8	27.3	27.3	27.8	28.2	26.6	27.1	27.0	27.5	28.0
8H	27.0	27.4	27.4	27.9	28.3	26.7	27.1	27.1	27.6	28.0
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 0.7 / - 0.8					+ 0.7 / - 0.9				
1.5H	+ 0.4 / - 0.4					+ 0.4 / - 0.4				
2.0H	+ 1.5 / - 2.0					+ 1.7 / - 2.2				

CIE Pub.117, 4587 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 5.3)
 Area: 0.024 m2

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:2023-08-16

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity:65.0%
 Test Distance:9.000m [K=1.0000]
 Remarks:

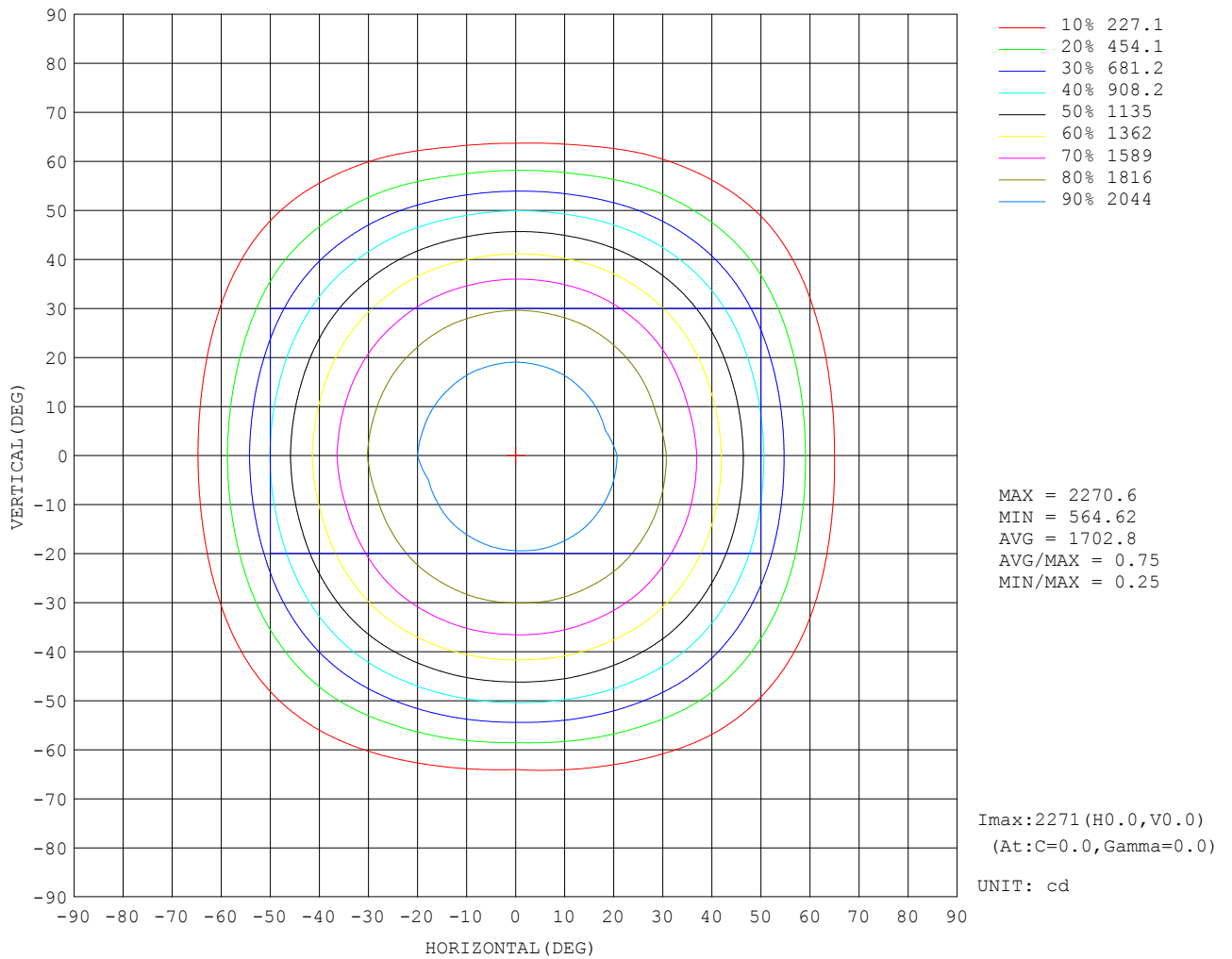
UTILIZATION FACTORS TABLE

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	66	56	49	65	55	49	64	55	49	43
0.80	76	66	60	75	66	60	73	65	59	53
1.00	84	75	69	83	74	69	81	75	68	62
1.25	91	82	76	89	82	76	87	80	75	69
1.50	95	87	82	94	86	81	91	85	80	74
2.00	101	94	89	99	93	88	96	91	87	80
2.50	104	98	93	102	96	92	98	94	90	83
3.00	106	101	97	104	99	95	101	97	93	86
4.00	109	105	101	107	103	100	103	100	97	89
5.00	111	107	104	109	105	102	104	102	99	91
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature: 25.3°C
 Operators: DAMIN
 Test Date: 2023-08-16

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity: 65.0%
 Test Distance: 9.000m [K=1.0000]
 Remarks:

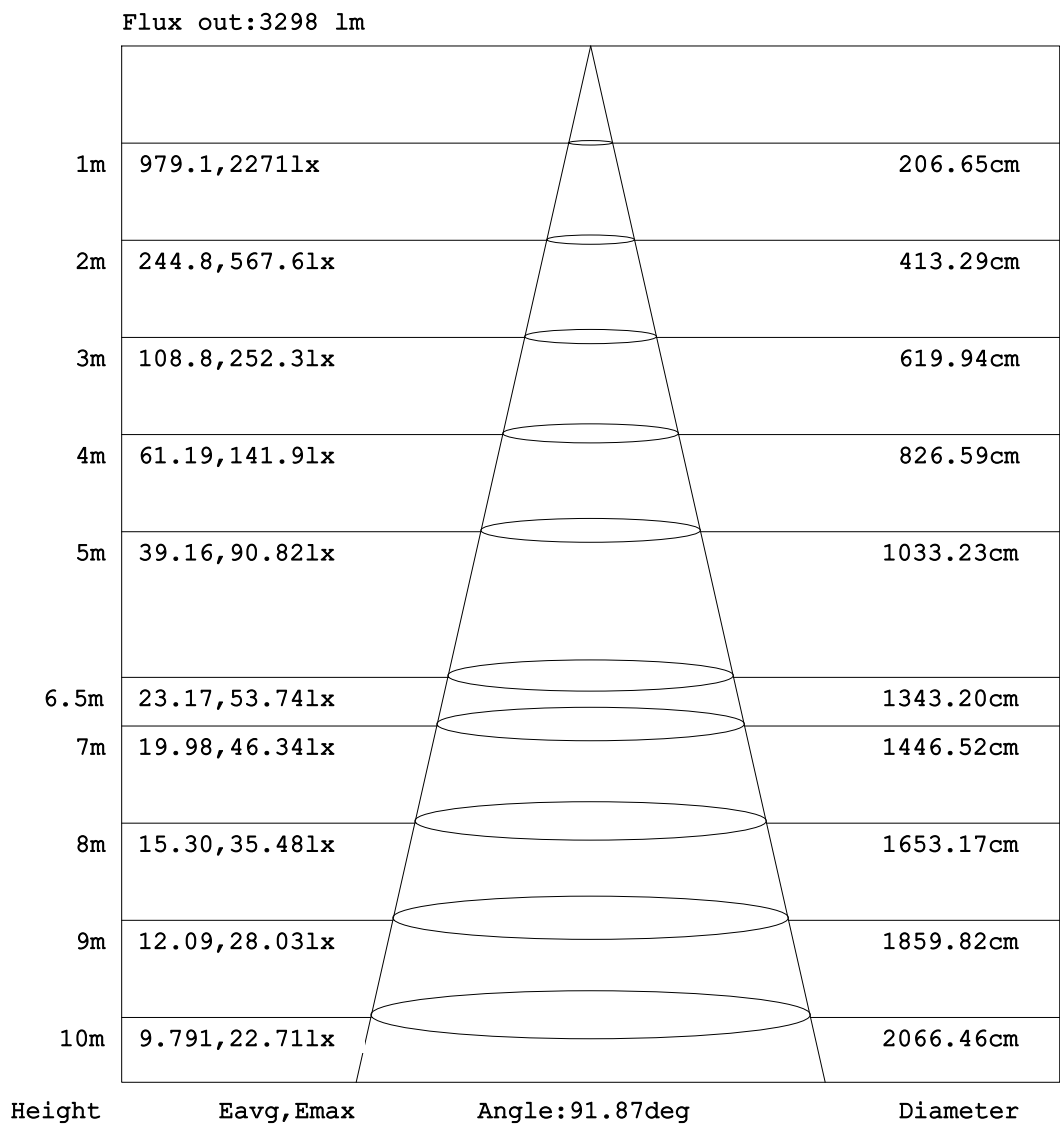
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:2023-08-16

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity:65.0%
 Test Distance:9.000m [K=1.0000]
 Remarks:

AAI Figure

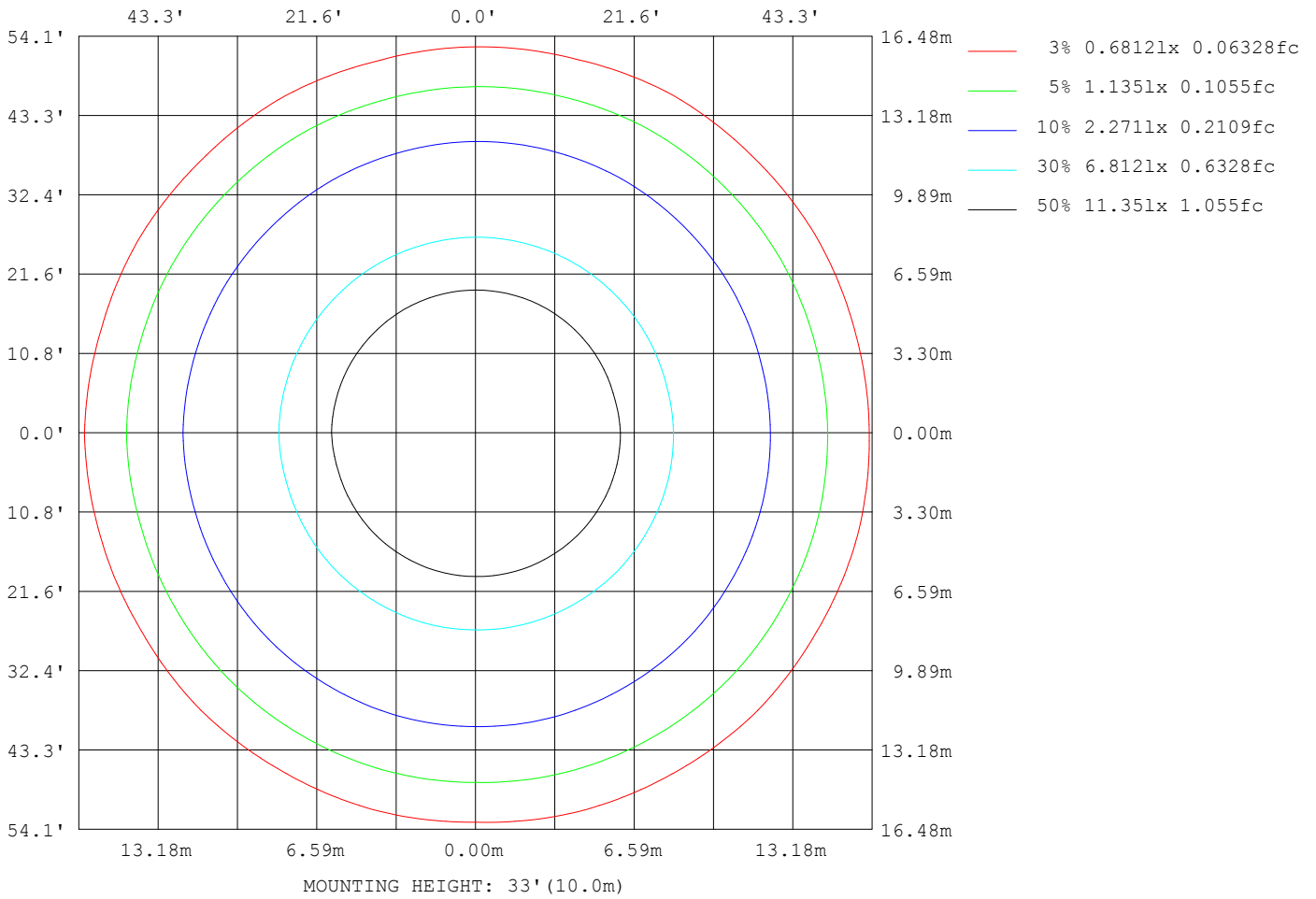


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:2023-08-16

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity:65.0%
 Test Distance:9.000m [K=1.0000]
 Remarks:

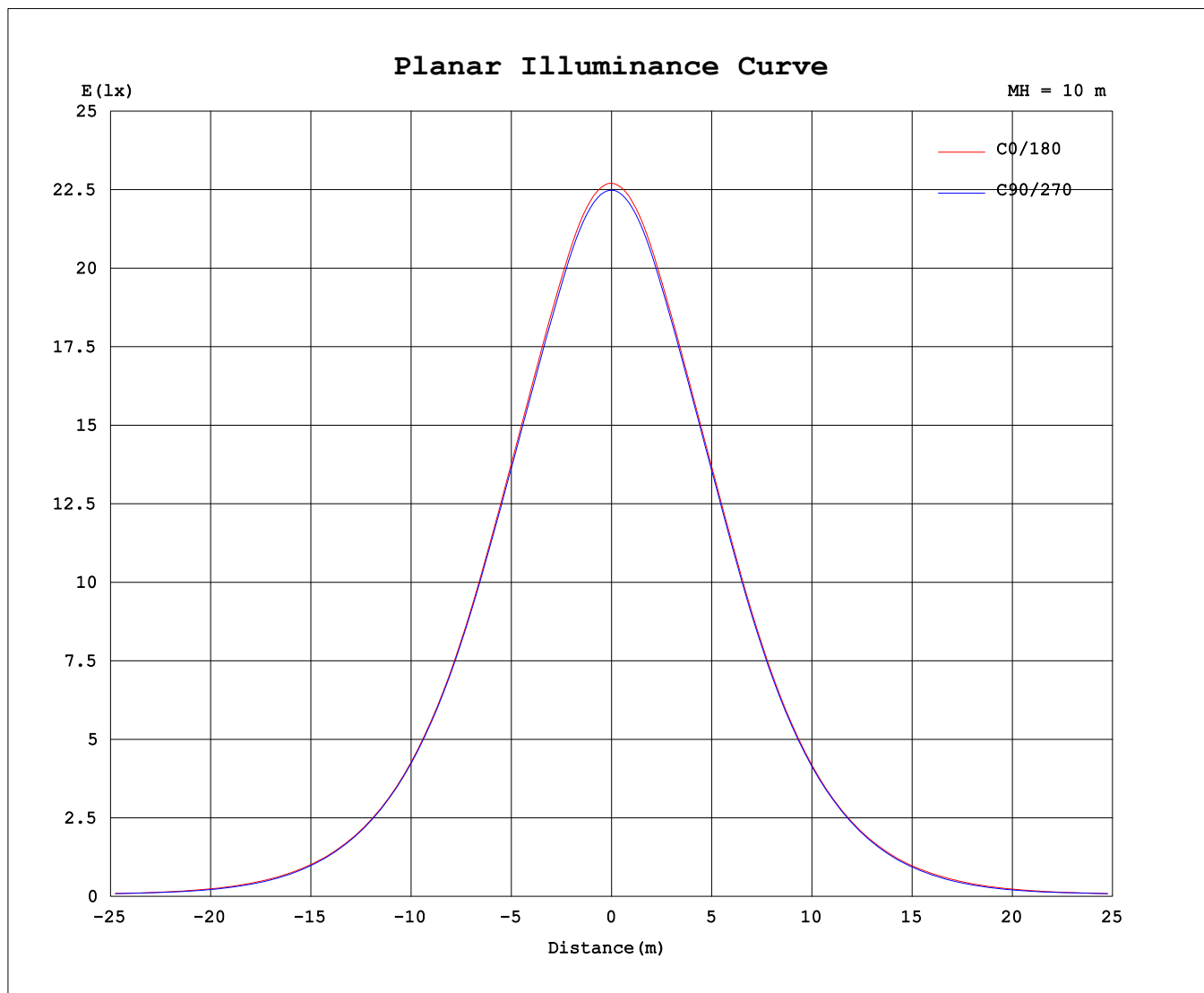
ISOLUX DIAGRAM



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature: 25.3°C
 Operator: DAMIN
 Test Date: 2023-08-16

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity: 65.0%
 Test Distance: 9.000m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: 10.0deg/s
Temperature:25.3°C
Operators:DAMIN
Test Date:2023-08-16

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.463
Humidity:65.0%
Test Distance:9.000m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270
0	2271	2265	2261	2258	2254	2252	2249	2246	2244	2242	2240	2239	2271	2265	2261	2258	2254	2252	2249
5	2258	2253	2249	2246	2242	2239	2236	2233	2230	2227	2225	2223	2255	2248	2244	2240	2238	2235	2234
10	2214	2210	2206	2204	2199	2197	2192	2188	2184	2182	2178	2177	2207	2200	2196	2191	2190	2188	2187
15	2140	2137	2133	2131	2126	2122	2116	2113	2108	2106	2102	2100	2129	2121	2118	2113	2113	2110	2111
20	2056	2054	2050	2048	2043	2039	2033	2030	2025	2023	2018	2016	2044	2035	2031	2027	2027	2025	2027
25	1959	1958	1955	1954	1948	1945	1939	1936	1930	1927	1923	1921	1947	1938	1934	1930	1929	1928	1930
30	1837	1838	1835	1835	1829	1826	1820	1816	1809	1806	1801	1799	1823	1812	1807	1801	1802	1801	1805
35	1666	1668	1665	1666	1660	1658	1652	1648	1640	1635	1628	1625	1646	1634	1628	1621	1623	1623	1629
40	1454	1458	1455	1457	1451	1450	1442	1439	1429	1425	1416	1413	1431	1417	1411	1404	1407	1407	1415
45	1209	1214	1213	1215	1209	1207	1198	1195	1185	1181	1170	1167	1183	1168	1163	1155	1159	1160	1170
50	941	947	946	949	942	941	931	927	916	913	902	900	913	899	894	887	891	892	902
55	665	673	673	675	668	662	649	648	642	639	630	628	641	628	623	617	619	613	619
60	410	421	417	423	410	401	383	390	389	393	383	386	396	382	383	374	375	358	364
65	227	233	231	234	226	218	209	211	218	218	219	215	220	220	214	214	208	202	197
70	164	166	165	165	160	159	156	156	154	157	157	158	161	159	158	153	152	150	151
75	116	118	117	115	110	107	103	104	104	108	110	111	114	111	110	104	102	98.8	100
80	69.8	71.7	69.8	67.6	62.4	59.4	56.2	56.7	57.4	61.5	63.8	66.6	68.5	66.1	63.4	58.3	55.7	52.7	53.6
85	31.3	31.2	28.9	25.0	21.6	17.9	15.8	15.1	16.2	19.2	23.3	27.1	29.6	27.3	22.2	17.7	15.0	13.3	13.4
90	0.62	1.06	0.97	0.54	0.31	0.29	0.28	0.28	0.31	0.37	0.38	0.38	0.79	0.90	0.94	0.90	0.77	0.72	0.70

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:2023-08-16

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity:65.0%
 Test Distance:9.000m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Table--2

UNIT: cd

C (DEG) \ \n γ (DEG)	285	300	315	330	345														
0	2246	2244	2242	2240	2239														
5	2232	2230	2229	2227	2226														
10	2185	2186	2184	2184	2182														
15	2109	2110	2109	2110	2109														
20	2025	2027	2026	2027	2025														
25	1929	1932	1931	1932	1931														
30	1806	1810	1809	1811	1810														
35	1631	1637	1638	1643	1642														
40	1419	1427	1429	1435	1434														
45	1175	1185	1188	1194	1194														
50	908	919	922	930	929														
55	629	645	649	657	658														
60	371	395	398	409	406														
65	207	218	220	226	225														
70	151	155	158	162	162														
75	101	106	109	114	115														
80	54.7	59.5	63.4	68.4	69.8														
85	15.1	18.3	23.0	26.9	31.2														
90	0.71	0.74	0.94	1.31	1.86														

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature: 25.3°C
 Operators: DAMIN
 Test Date: 2023-08-16

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity: 65.0%
 Test Distance: 9.000m [K=1.0000]
 Remarks: