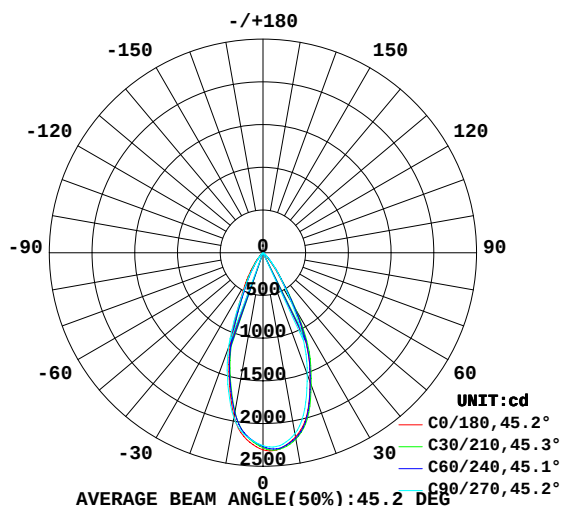


LUMINAIRE PHOTOMETRIC TEST REPORT

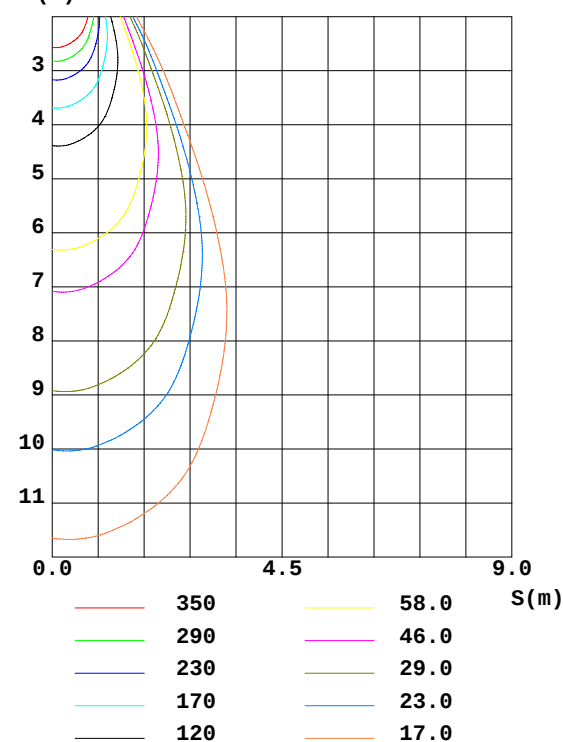
NAME:CL-Halo-D18-uls 3000k-RA90-48D	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 73.93 lm/W			
MODEL		I _{max} (cd)	2320	S/MH(C0/180)	0.77
NOMINAL POWER(W)	18	LOR(%)	100.0	S/MH(C90/270)	0.76
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	1330.7	η UP, DN(C0-180)	0.2, 55.8
NOMINAL FLUX(lm)	1330.73	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.2, 43.9
LAMPS INSIDE	1	η up(%)	0.4	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	24	η down(%)	99.6	CIBSE SHR MAX	0.70

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:VD
Test Date:2021-03-08

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.262
Humidity:65.0%
Test Distance:7.000m [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	2190	2215	2150	2028	1948	1890	1963	2070	0- 10	206.6	206.6	15.5,15.5
20	1615	1640	1516	1285	1110	1047	1178	1417	10- 20	478.8	685.3	51.5,51.5
30	711.6	765.6	644.8	491.4	405.4	341.2	338.9	469.5	20- 30	413.2	1099	82.6,82.6
40	135.1	178.8	185.7	153.7	111.3	85.47	78.18	88.85	30- 40	173.9	1272	95.6,95.6
50	23.30	32.62	33.60	21.16	11.01	8.007	9.547	14.65	40- 50	45.67	1318	99,99
60	3.144	3.824	3.618	2.257	1.162	0.8389	1.071	1.967	50- 60	6.756	1325	99.6,99.6
70	0.0885	0.2112	0.0500	0	0	0	0	0	60- 70	0.7558	1326	99.6,99.6
80	0	0	0	0	0	0	0	0	70- 80	0.0032	1326	99.6,99.6
90	0	0	0	0	0	0	0	0	80- 90	0	1326	99.6,99.6
100	0	0	0	0	0	0	0	0	90-100	0	1326	99.6,99.6
110	0	0	0	0	0	0	0	0	100-110	0	1326	99.6,99.6
120	0	0	0	0	0.0139	0.0231	0.0136	0.0047	110-120	0.0008	1326	99.6,99.6
130	0.1555	0.1146	0.1334	0.1971	0.4045	0.4680	0.4077	0.3166	120-130	0.0867	1326	99.6,99.6
140	0.8428	0.7338	0.8266	1.069	1.428	1.537	1.389	1.119	130-140	0.4870	1326	99.7,99.7
150	2.159	1.998	2.167	2.532	2.979	3.085	2.880	2.464	140-150	1.103	1327	99.7,99.7
160	3.856	3.676	3.795	4.112	4.630	4.652	4.416	4.037	150-160	1.519	1329	99.9,99.9
170	5.457	5.273	5.336	5.596	6.102	6.048	5.802	5.489	160-170	1.364	1330	100,100
180	6.564	6.463	6.404	6.381	6.615	6.495	6.413	6.383	170-180	0.5720	1331	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

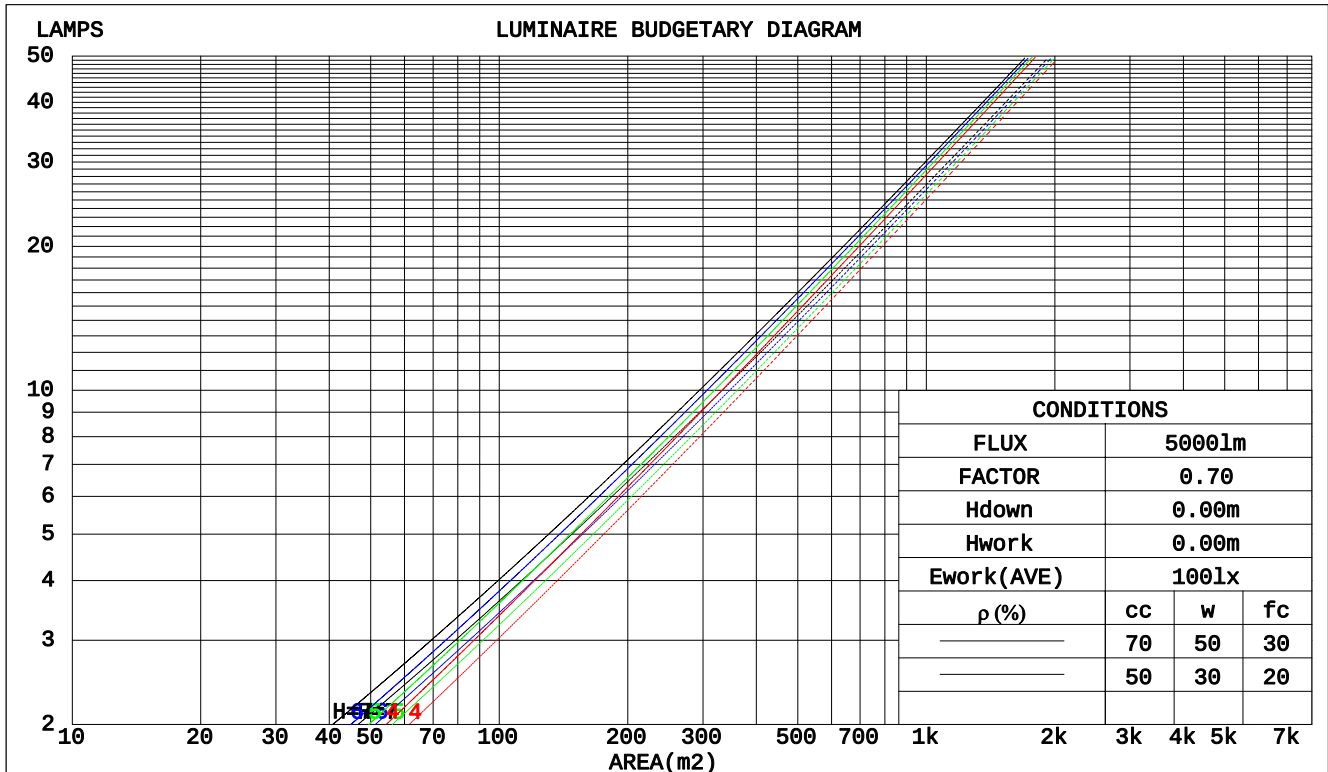
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:VD
Test Date:2021-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 γ Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.262
Humidity:65.0%
Test Distance:7.000m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

NAME: HaLo-D18-3000k-RA90-48D	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: VD	SUR.:	PROTECTION ANGLE:

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	.00
1.0	1.11	1.09	1.07	1.09	1.07	1.05	1.05	1.04	1.02	1.01	1.00	.99	.98	.97	.96	.94
2.0	1.05	1.01	.98	1.03	.99	.97	.99	.97	.95	.97	.94	.93	.94	.92	.91	.89
3.0	.98	.94	.90	.97	.93	.90	.94	.91	.88	.92	.89	.87	.90	.87	.85	.84
4.0	.93	.88	.84	.92	.87	.84	.90	.86	.83	.88	.84	.82	.86	.83	.81	.79
5.0	.88	.83	.79	.87	.82	.78	.85	.81	.78	.84	.80	.77	.82	.79	.76	.75
6.0	.83	.78	.74	.82	.77	.74	.81	.77	.73	.80	.76	.73	.78	.75	.72	.71
7.0	.79	.74	.70	.78	.73	.70	.77	.73	.69	.76	.72	.69	.75	.71	.69	.67
8.0	.75	.70	.66	.75	.70	.66	.74	.69	.66	.73	.68	.65	.72	.68	.65	.64
9.0	.72	.66	.63	.71	.66	.63	.70	.66	.62	.69	.65	.62	.69	.65	.62	.61
10.0	.68	.63	.60	.68	.63	.60	.67	.63	.60	.66	.62	.59	.66	.62	.59	.58



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: VD
Test Date: 2021-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.0.262
Humidity: 65.0%
Test Distance: 7.000m [K=1.0000]
Remarks:

WEC AND CCEC

NAME: Halo-D18-3000k-RA90-48D	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: VD	SUR.:	PROTECTION ANGLE:

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	.163	.093	.029	.156	.089	.028	.144	.082	.026	.132	.076	.024	.121	.070	.023		
2.0	.155	.085	.026	.149	.082	.025	.139	.077	.024	.129	.072	.023	.120	.068	.021		
3.0	.147	.078	.023	.142	.076	.023	.133	.072	.022	.125	.068	.021	.117	.065	.020		
4.0	.140	.073	.021	.136	.071	.021	.128	.068	.020	.121	.065	.020	.114	.062	.019		
5.0	.133	.068	.020	.130	.066	.019	.123	.064	.019	.116	.061	.018	.111	.059	.018		
6.0	.127	.064	.018	.124	.063	.018	.118	.060	.018	.112	.058	.017	.107	.056	.017		
7.0	.121	.060	.017	.119	.059	.017	.113	.057	.017	.109	.056	.016	.104	.054	.016		
8.0	.116	.057	.016	.114	.056	.016	.109	.055	.016	.105	.053	.015	.101	.052	.015		
9.0	.112	.054	.015	.109	.053	.015	.105	.052	.015	.101	.051	.015	.098	.050	.014		
10.0	.107	.051	.014	.105	.051	.014	.102	.050	.014	.098	.049	.014	.095	.048	.014		

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	.193	.193	.193	.165	.165	.165	.113	.113	.113	.065	.065	.065	.021	.021	.021		
1.0	.173	.160	.149	.148	.138	.128	.101	.095	.089	.058	.055	.052	.019	.018	.017		
2.0	.157	.136	.118	.134	.117	.102	.092	.081	.071	.053	.047	.042	.017	.015	.014		
3.0	.144	.116	.095	.123	.100	.082	.085	.070	.058	.049	.041	.034	.016	.013	.011		
4.0	.133	.102	.078	.114	.088	.067	.078	.061	.047	.045	.036	.028	.015	.012	.009		
5.0	.124	.090	.065	.106	.078	.056	.073	.054	.040	.042	.032	.024	.014	.010	.008		
6.0	.116	.080	.055	.100	.070	.048	.069	.049	.034	.040	.029	.020	.013	.009	.007		
7.0	.109	.073	.047	.094	.063	.041	.065	.044	.029	.038	.026	.017	.012	.009	.006		
8.0	.103	.066	.041	.089	.057	.035	.062	.040	.025	.036	.024	.015	.012	.008	.005		
9.0	.098	.061	.036	.085	.053	.031	.059	.037	.022	.034	.022	.013	.011	.007	.004		
10.0	.094	.056	.032	.081	.049	.028	.056	.034	.020	.033	.020	.012	.011	.007	.004		

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:VD
Test Date:2021-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.262
Humidity:65.0%
Test Distance:7.000m [K=1.0000]
Remarks:

Uncorrected UGR Table

NAME: Halo-D18-3000k-RA90-48D						TYPE:					WEIGHT:				
DIM.:						SPEC.:					SERIAL No.:				
MFR.: VD						SUR.:					PROTECTION ANGLE:				
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	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	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	0.2	0.2	0.2	0.2	0.2
Room dimensions						Viewed crosswise					Viewed endwise				
x = 2H y = 2H	8.3	9.1	8.5	9.3	9.5	8.4	9.3	8.6	9.4	9.6	8.4	9.3	8.6	9.4	9.6
3H	8.1	8.9	8.4	9.1	9.3	8.2	9.0	8.5	9.2	9.4	8.2	9.0	8.5	9.2	9.4
4H	8.0	8.8	8.3	9.0	9.2	8.2	8.9	8.4	9.1	9.3	8.2	8.9	8.4	9.1	9.3
6H	7.9	8.6	8.2	8.9	9.1	8.1	8.8	8.4	9.0	9.2	8.1	8.8	8.4	9.0	9.2
8H	7.9	8.5	8.2	8.8	9.1	8.0	8.7	8.3	8.9	9.2	8.0	8.7	8.3	8.9	9.2
12H	7.8	8.5	8.2	8.7	9.0	8.0	8.6	8.3	8.9	9.2	8.0	8.6	8.3	8.9	9.2
4H 2H	8.0	8.8	8.3	9.0	9.2	8.2	8.9	8.4	9.1	9.3	8.2	8.9	8.4	9.1	9.3
3H	7.8	8.5	8.2	8.8	9.0	8.0	8.6	8.3	8.9	9.2	8.0	8.6	8.3	8.9	9.2
4H	7.7	8.3	8.1	8.6	8.9	7.9	8.5	8.2	8.8	9.1	7.9	8.5	8.2	8.8	9.1
6H	7.6	8.2	8.0	8.5	8.8	7.8	8.3	8.2	8.6	9.0	7.8	8.3	8.2	8.6	9.0
8H	7.6	8.1	8.0	8.4	8.8	7.7	8.2	8.1	8.6	8.9	7.7	8.2	8.1	8.6	8.9
12H	7.5	8.0	8.0	8.4	8.7	7.7	8.1	8.1	8.5	8.9	7.7	8.1	8.1	8.5	8.9
8H 4H	7.6	8.1	8.0	8.4	8.8	7.7	8.2	8.1	8.6	8.9	7.7	8.2	8.1	8.6	8.9
6H	7.5	7.9	7.9	8.3	8.7	7.6	8.0	8.1	8.4	8.8	7.6	8.0	8.1	8.4	8.8
8H	7.4	7.8	7.9	8.2	8.6	7.6	7.9	8.0	8.3	8.8	7.6	7.9	8.0	8.3	8.8
12H	7.4	7.7	7.8	8.1	8.6	7.5	7.8	8.0	8.2	8.7	7.5	7.8	8.0	8.2	8.7
12H 4H	7.5	8.0	8.0	8.4	8.7	7.7	8.1	8.1	8.5	8.9	7.7	8.1	8.1	8.5	8.9
6H	7.4	7.8	7.9	8.2	8.6	7.6	7.9	8.0	8.3	8.8	7.6	7.9	8.0	8.3	8.8
8H	7.4	7.7	7.8	8.1	8.6	7.5	7.8	8.0	8.2	8.7	7.5	7.8	8.0	8.2	8.7
Variations with the observer position at spacings:															
S = 1.0H	+ 3.0 / -15.7					+ 3.2 / -15.4									
1.5H	+ 5.2 / -11.2					+ 5.2 / -11.7									
2.0H	+ 6.3 / -12.2					+ 7.0 / -14.2									

CIE Pub.117 Corrected 1331 lm Total Lamp Luminous Flux.(8log(F/F0) = 1.0)

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:VD
Test Date:2021-03-08

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.262
Humidity:65.0%
Test Distance:7.000m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

NAME: Halo-D18-3000k-RA90-48D	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: VD	SUR.:	PROTECTION ANGLE:

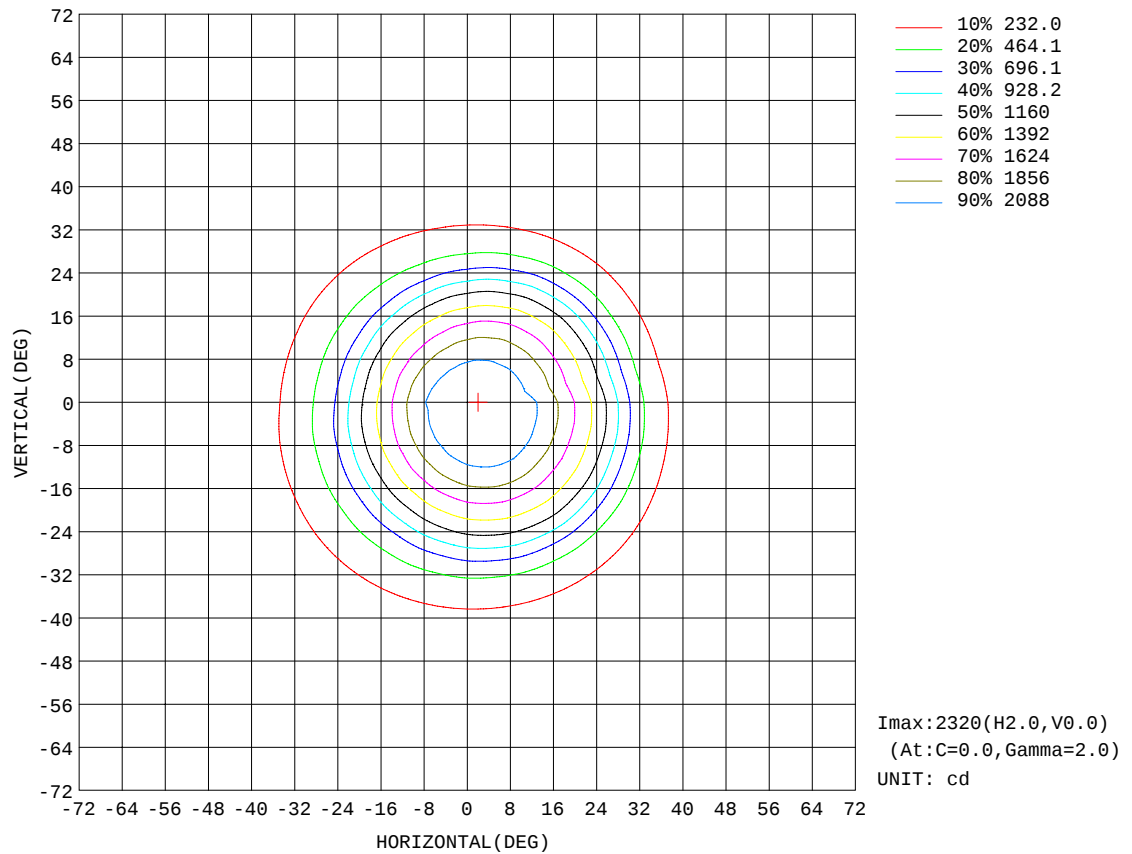
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	89	83	79	88	83	79	88	82	79	75
0.80	96	91	87	95	90	87	94	90	86	83
1.00	100	95	92	99	95	91	98	94	91	87
1.25	104	99	96	103	99	96	101	97	95	91
1.50	107	102	99	105	101	99	103	100	97	93
2.00	109	105	102	108	104	101	105	102	100	95
2.50	111	107	104	109	106	103	106	103	101	96
3.00	112	109	106	110	107	105	107	105	103	97
4.00	114	111	109	112	110	108	108	107	105	98
5.00	115	113	111	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: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:VD
Test Date:2021-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 γ Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.262
Humidity:65.0%
Test Distance:7.000m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

NAME: HaIo-D18-3000k-RA90-48D	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: VD	SUR.:	PROTECTION ANGLE:

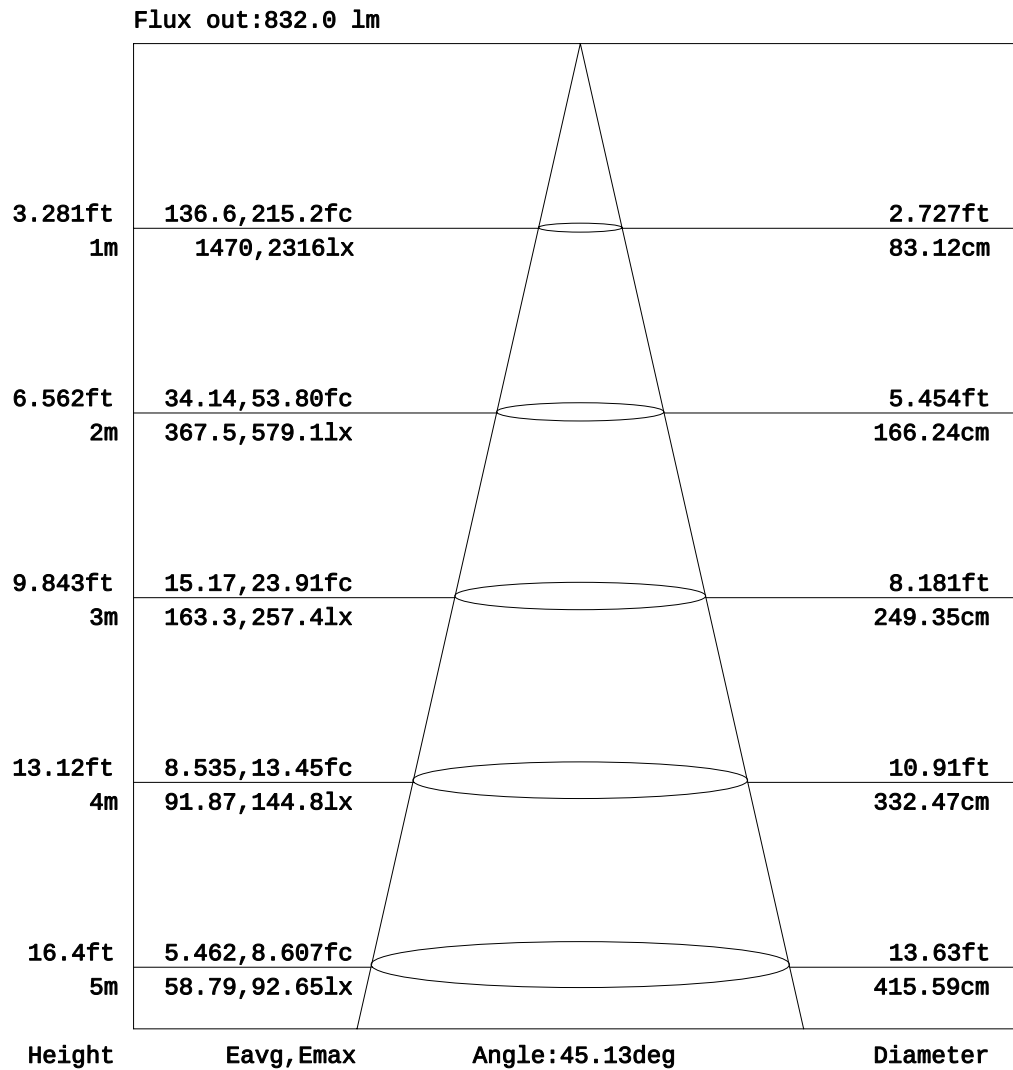


C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: VD
Test Date: 2021-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.0.262
Humidity: 65.0%
Test Distance: 7.000m [K=1.0000]
Remarks:

AAI Figure

NAME: HaLo-D18-3000k-RA90-48D	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: VD	SUR.:	PROTECTION ANGLE:



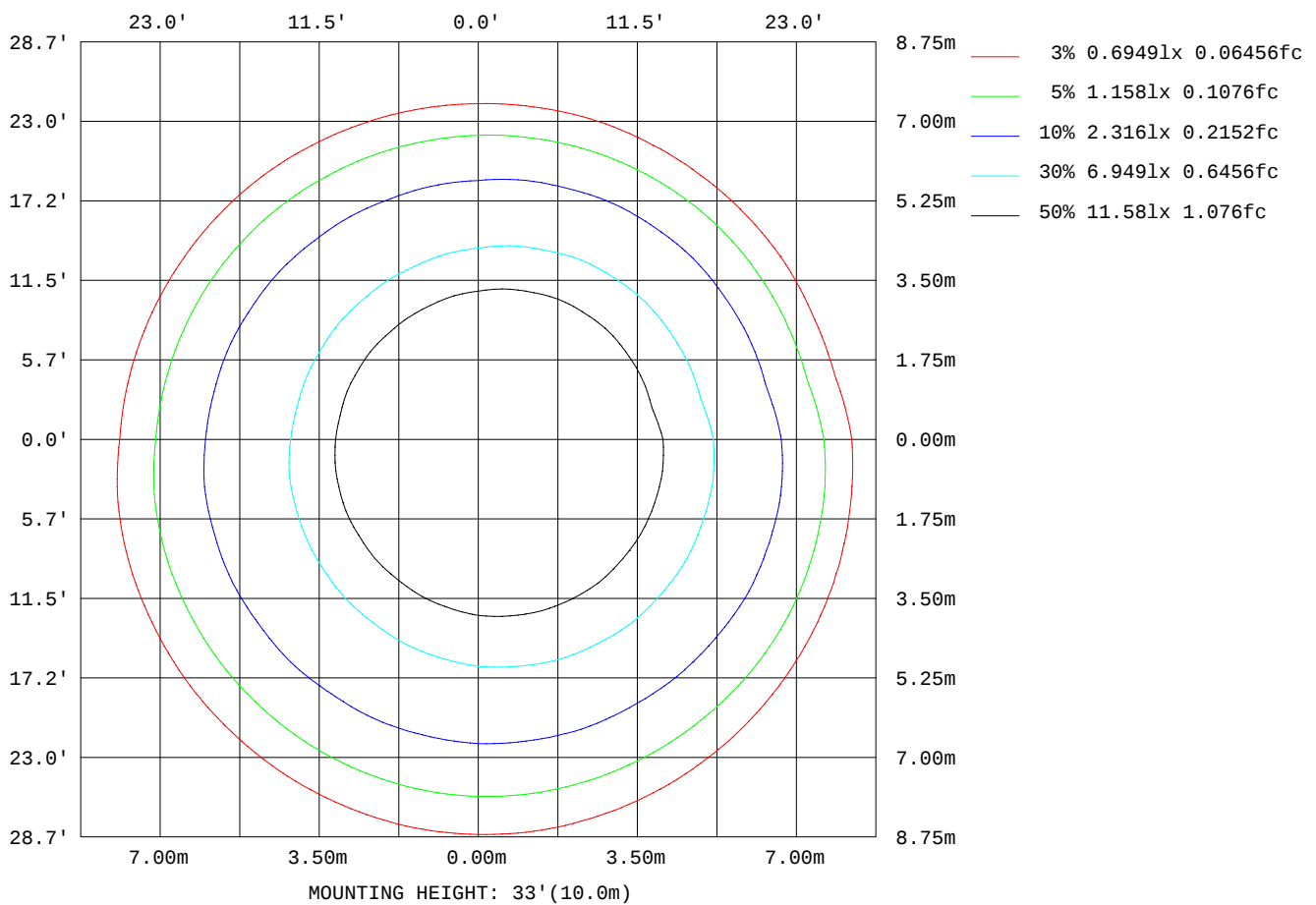
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: VD
Test Date: 2021-03-08

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.0.262
Humidity: 65.0%
Test Distance: 7.000m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

NAME: Ha1o-D18-3000k-RA90-48D	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: VD	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: VD
Test Date: 2021-03-08

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.0.262
Humidity: 65.0%
Test Distance: 7.000m [K=1.0000]
Remarks:

Average Luminance Table(CIBSE)

NAME: Halo-D18-3000k-RA90-48D	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: VD	SUR.:	PROTECTION ANGLE:

Parameter description for average Luminance	Symbol	Value	Unit
Luminance in Azimuth Plane	Bc	refer Table 2	cd/sq.m.
Intensity at angle Gamma in given azimuth plane	I	from data	cd/klm
Number of lamps	N	1	
Output of each lamp(initial lumens as specified)	F	1330.73	lm
Multiplying factor	K	1	
Luminous area in horizontal plane used in calculations	A	0.1	sq.m.
Angle to the downward vertical from light centre	Gamma	from data	deg

Table 1. Calculation parameters for determination of CIBSE LG3:1996 Average Luminance

G deg	C plane(deg)																		
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
55	140	152	159	171	177	187	186	191	184	181	165	153	134	120	104	93	81	74	63
60	63	68	70	75	75	78	76	77	74	72	66	62	54	49	41	37	32	28	23
65	26	28	30	32	33	33	33	31	29	27	24	21	17	14	11	8	7	4	2
70	3	3	5	5	6	6	6	4	4	1	1	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 2. Average Luminance(cd/sq.m.) for defined C plane,Gamma angle

CIBSE Category	Gamma (deg)	Average Luminance		Patch Luminance	
		maximum calculated	specified maximum	maximum measured	specified maximum
Category 1	55 to 90	191	200	---	500
Category 2	65 to 90	33	200	---	500
Category 3	75 to 90	0	200	---	500

Table 3. Tabulation of Average and Patch Luminance(cd/sq.m.) for defined CIBSE categories

No match

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:VD
Test Date:2021-03-08

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.262
Humidity:65.0%
Test Distance:7.000m [K=1.0000]
Remarks:

Average Luminance Table(CIBSE)

NAME: Halo-D18-3000k-RA90-48D	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: VD	SUR.:	PROTECTION ANGLE:

Parameter description for average Luminance	Symbol	Value	Unit
Luminance in Azimuth Plane	Bc	refer Table 2	cd/sq.m.
Intensity at angle Gamma in given azimuth plane	I	from data	cd/klm
Number of lamps	N	1	
Output of each lamp(initial lumens as specified)	F	1330.73	lm
Multiplying factor	K	1	
Luminous area in horizontal plane used in calculations	A	0.1	sq.m.
Angle to the downward vertical from light centre	Gamma	from data	deg

Table 1. Calculation parameters for determination of CIBSE LG3:2001 Average Luminance

G deg	C plane(deg)																		
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
55	140	152	159	171	177	187	186	191	184	181	165	153	134	120	104	93	81	74	63
60	63	68	70	75	75	78	76	77	74	72	66	62	54	49	41	37	32	28	23
65	26	28	30	32	33	33	33	31	29	27	24	21	17	14	11	8	7	4	2
70	3	3	5	5	6	6	6	4	4	1	1	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 2. Average Luminance(cd/sq.m.) for defined C plane,Gamma angle

range (deg)	Maximum measured	Average Luminance(cd/sq.m)			
		Maximum limit for screen type & software category used			
		Type I,II screen Some neg.s'ware	Type I,II screen Only pos.s'ware	Type III screen Some neg.s'ware	Type III screen Only pos.s'ware
55 to 90	191	1000	1500	200	500
65 to 90	33	1000	1500	200	500

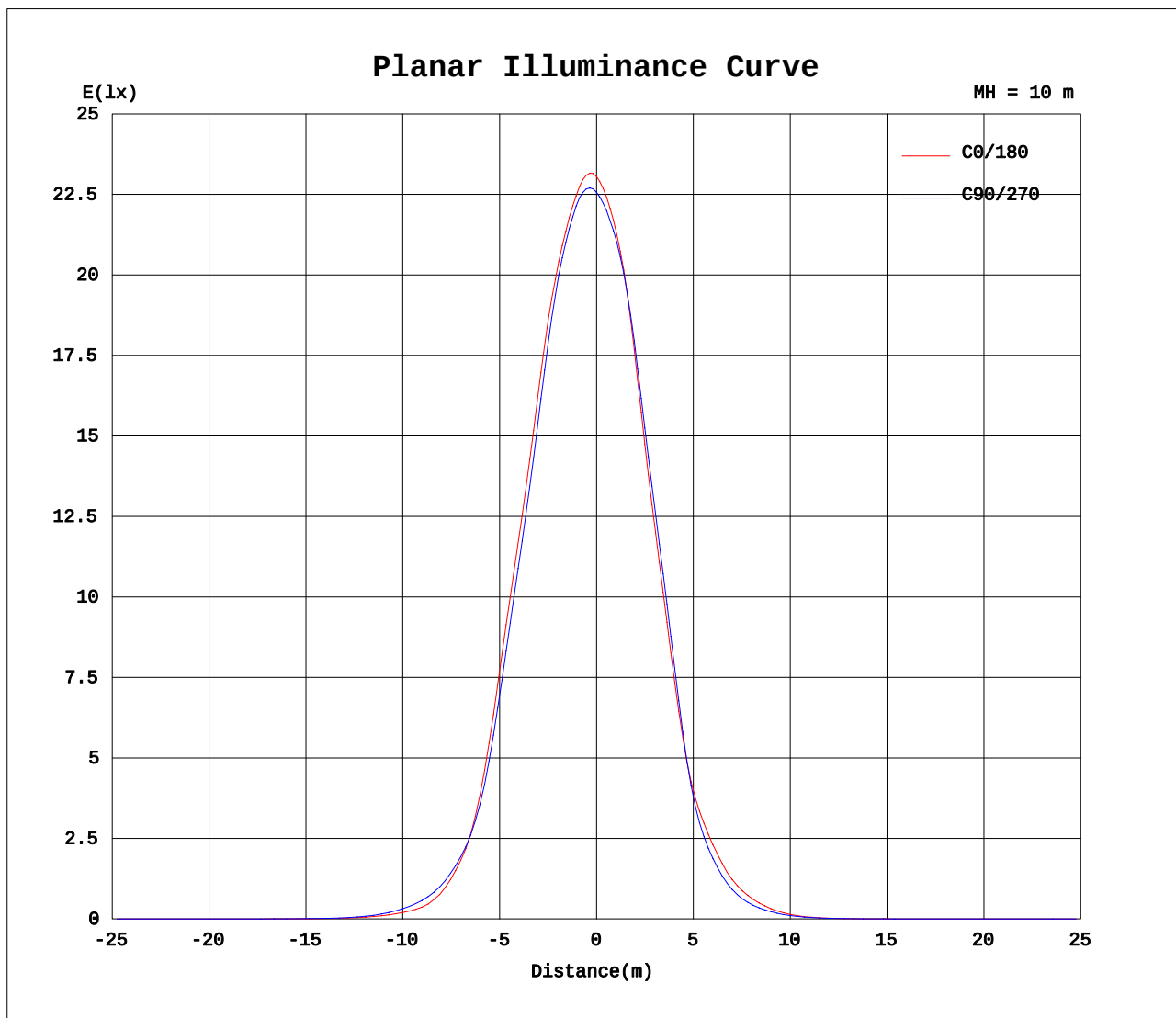
Table 3. Tabulation of average luminance(cd/sq.m.) and luminance limits

The luminaire satisfies the specified luminance criteria for
Negative Software with Type I & II Screen(Good to Moderate treatment).

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:VD
Test Date:2021-03-08

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.262
Humidity:65.0%
Test Distance:7.000m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: VD
Test Date: 2021-03-08

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.0.262
Humidity: 65.0%
Test Distance: 7.000m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: Halo-D18-3000k-RA90-48D	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: VD	SUR.:	PROTECTION ANGLE:

Table--1

UNIT: cd

C(°)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
0	2306	2297	2291	2283	2278	2271	2268	2263	2261	2258	2256	2255	2255	2255	2256	2257	2259	2260	2306
5	2301	2304	2305	2306	2304	2301	2295	2289	2278	2266	2250	2238	2223	2212	2199	2188	2175	2167	2195
10	2190	2200	2205	2215	2216	2215	2203	2191	2171	2150	2124	2099	2066	2042	2014	1994	1967	1953	1948
15	1978	1997	2000	2011	2007	2007	1986	1964	1925	1891	1840	1795	1740	1704	1652	1620	1578	1553	1531
20	1615	1638	1641	1648	1640	1639	1616	1593	1553	1516	1459	1413	1353	1311	1258	1225	1186	1156	1110
25	1227	1261	1269	1281	1273	1268	1236	1209	1163	1118	1052	994	927	880	823	781	737	709	657
30	712	750	760	778	768	763	734	715	674	645	600	570	530	506	477	462	441	429	405
35	333	357	366	375	371	370	364	364	356	352	339	330	313	303	286	274	259	245	224
40	135	145	156	167	176	182	186	188	189	186	182	174	167	158	150	141	133	125	111
45	57.9	62.9	67.1	73.5	78.0	83.5	87.0	90.7	91.0	90.6	86.4	82.7	75.4	70.4	63.6	58.7	52.7	48.5	40.7
50	23.3	25.6	27.3	30.1	31.5	33.8	34.3	35.4	34.4	33.6	30.7	28.6	25.0	22.7	19.6	17.4	15.0	13.5	11.0
55	8.05	8.74	9.13	9.82	10.1	10.7	10.7	11.0	10.6	10.4	9.47	8.78	7.71	6.89	5.97	5.32	4.67	4.22	3.63
60	3.14	3.41	3.51	3.73	3.75	3.90	3.81	3.87	3.70	3.62	3.31	3.09	2.69	2.44	2.07	1.84	1.58	1.41	1.16
65	1.08	1.19	1.28	1.36	1.39	1.40	1.38	1.32	1.24	1.15	1.02	0.87	0.73	0.58	0.46	0.33	0.29	0.19	0.08
70	0.09	0.10	0.17	0.17	0.22	0.20	0.21	0.15	0.13	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
115	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
125	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.05	0.01	0.08	0.15
130	0.16	0.18	0.11	0.15	0.10	0.13	0.08	0.12	0.08	0.13	0.10	0.16	0.13	0.20	0.19	0.25	0.24	0.31	0.40
135	0.43	0.43	0.37	0.39	0.33	0.36	0.32	0.36	0.33	0.40	0.38	0.45	0.46	0.54	0.54	0.62	0.64	0.72	0.83
140	0.84	0.84	0.77	0.78	0.72	0.75	0.71	0.76	0.75	0.83	0.84	0.93	0.95	1.05	1.09	1.18	1.21	1.29	1.43
145	1.43	1.41	1.34	1.34	1.27	1.30	1.28	1.34	1.33	1.42	1.46	1.57	1.61	1.72	1.77	1.89	1.92	2.02	2.16
150	2.16	2.13	2.04	2.05	1.98	2.01	1.99	2.06	2.07	2.17	2.21	2.32	2.38	2.50	2.56	2.68	2.73	2.82	2.98
155	2.99	2.96	2.87	2.86	2.81	2.83	2.81	2.87	2.88	2.98	3.02	3.13	3.19	3.30	3.37	3.48	3.52	3.62	3.81
160	3.86	3.83	3.75	3.73	3.67	3.68	3.66	3.71	3.71	3.79	3.84	3.93	3.97	4.08	4.14	4.25	4.30	4.40	4.63
165	4.69	4.67	4.57	4.56	4.49	4.51	4.46	4.50	4.49	4.57	4.60	4.70	4.74	4.85	4.91	5.03	5.09	5.20	5.41
170	5.46	5.44	5.34	5.35	5.26	5.28	5.22	5.27	5.26	5.34	5.35	5.45	5.47	5.57	5.62	5.73	5.76	5.87	6.10
175	6.11	6.12	6.03	6.05	5.96	5.98	5.92	5.96	5.94	6.01	6.00	6.08	6.07	6.16	6.15	6.23	6.26	6.36	6.56
180	6.56	6.58	6.52	6.53	6.46	6.47	6.43	6.43	6.40	6.40	6.39	6.39	6.38	6.38	6.38	6.39	6.41	6.44	6.61

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: VD
Test Date: 2021-03-08

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.0.262
Humidity: 65.0%
Test Distance: 7.000m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: HaLo-D18-3000k-RA90-48D	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: VD	SUR.:	PROTECTION ANGLE:

Table--2

UNIT: cd

C(°)	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350		
γ (°)	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350		
0	2297	2291	2283	2278	2271	2268	2263	2261	2258	2256	2255	2255	2255	2256	2257	2259	2260		
5	2178	2170	2159	2153	2147	2151	2150	2157	2162	2173	2181	2192	2197	2207	2214	2225	2233		
10	1921	1910	1892	1892	1889	1902	1913	1944	1963	1994	2015	2042	2058	2082	2096	2109	2116		
15	1503	1498	1484	1487	1487	1506	1523	1562	1593	1644	1687	1737	1770	1809	1834	1867	1883		
20	1071	1060	1042	1049	1044	1067	1090	1139	1178	1241	1287	1352	1392	1442	1468	1504	1523		
25	620	605	583	579	569	581	591	630	662	727	784	867	924	990	1034	1085	1117		
30	385	373	356	348	335	333	327	333	339	360	380	415	447	492	526	575	611		
35	211	200	190	181	175	169	166	165	168	172	180	191	206	223	239	263	279		
40	103	98.0	91.5	88.0	82.9	80.7	78.2	78.6	78.2	79.8	80.9	84.3	86.5	91.2	95.1	101	107		
45	36.3	34.2	31.3	30.1	28.5	28.7	28.3	29.8	30.7	32.9	34.2	36.9	38.7	41.3	43.4	46.3	48.8		
50	9.66	9.06	8.40	8.15	7.86	8.04	8.21	8.90	9.55	10.7	11.6	13.0	13.9	15.4	16.3	17.8	18.9		
55	3.24	3.12	2.89	2.82	2.72	2.79	2.84	3.10	3.35	3.75	4.09	4.66	5.04	5.54	5.89	6.35	6.70		
60	1.04	0.96	0.90	0.85	0.83	0.83	0.88	0.96	1.07	1.24	1.41	1.64	1.84	2.10	2.25	2.46	2.61		
65	0.06	0.00	0.01	0.00	0.01	0.00	0.03	0.01	0.08	0.09	0.19	0.25	0.39	0.48	0.60	0.69	0.82		
70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01		
75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
115	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
120	0.00	0.02	0.00	0.05	0.00	0.06	0.01	0.05	0.01	0.05	0.00	0.03	0.00	0.01	0.00	0.00	0.00		
125	0.12	0.17	0.15	0.20	0.16	0.20	0.16	0.20	0.15	0.19	0.13	0.16	0.10	0.12	0.07	0.10	0.05		
130	0.39	0.45	0.43	0.48	0.45	0.49	0.44	0.47	0.41	0.43	0.37	0.37	0.31	0.33	0.26	0.28	0.22		
135	0.83	0.90	0.88	0.93	0.91	0.93	0.88	0.89	0.82	0.81	0.74	0.73	0.65	0.65	0.56	0.57	0.50		
140	1.43	1.50	1.50	1.55	1.52	1.54	1.48	1.47	1.39	1.36	1.27	1.24	1.13	1.11	1.01	1.01	0.92		
145	2.19	2.24	2.25	2.29	2.27	2.28	2.22	2.19	2.10	2.04	1.93	1.88	1.76	1.71	1.60	1.57	1.49		
150	3.00	3.06	3.05	3.10	3.07	3.08	3.02	2.97	2.88	2.82	2.69	2.61	2.49	2.43	2.33	2.28	2.19		
155	3.81	3.87	3.86	3.90	3.87	3.88	3.80	3.78	3.67	3.61	3.48	3.41	3.30	3.23	3.12	3.07	2.98		
160	4.60	4.66	4.64	4.68	4.63	4.63	4.54	4.53	4.42	4.36	4.24	4.18	4.06	4.01	3.91	3.87	3.78		
165	5.39	5.43	5.39	5.43	5.37	5.36	5.28	5.24	5.14	5.09	4.96	4.91	4.80	4.75	4.66	4.64	4.56		
170	6.07	6.11	6.04	6.08	6.01	6.02	5.92	5.91	5.80	5.75	5.64	5.60	5.50	5.48	5.39	5.38	5.31		
175	6.51	6.54	6.47	6.50	6.43	6.45	6.36	6.37	6.27	6.28	6.17	6.17	6.08	6.08	6.00	6.03	5.97		
180	6.59	6.57	6.53	6.51	6.48	6.46	6.44	6.44	6.41	6.41	6.39	6.39	6.38	6.39	6.38	6.40	6.42		

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: VD
Test Date: 2021-03-08

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.0.262
Humidity: 65.0%
Test Distance: 7.000m [K=1.0000]
Remarks: