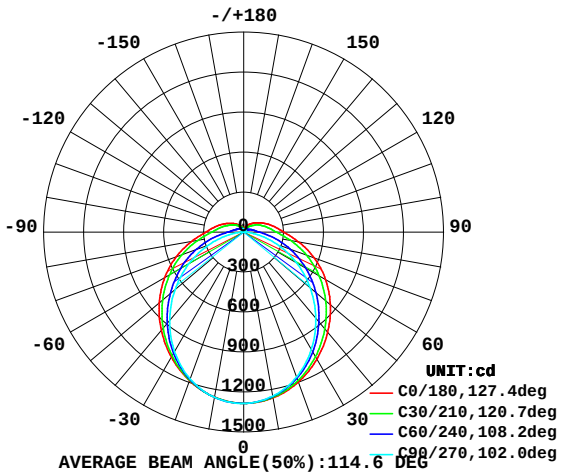
LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:230.4V I:0.1810A P:40.50W PF:0.9670 Lamp Flux:4480.99x1 lm		
NAME: UP-DB31-1200-40W-5700K	TYPE:40W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:
MFR.:	SUR.:0.1392	PROTECTION ANGLE:

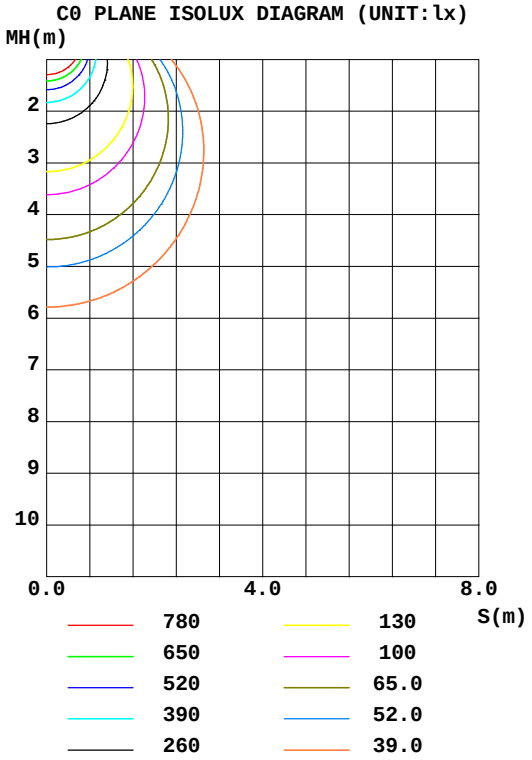
DATA OF LAMP		PHOTOMETRIC DATA Eff: 110.64 lm/W			
MODEUP-DB31-1200-40W-5700K		Imax(cd)	1286	S/MH(C0/180)	1.28
NOMINAL POWER(W)	40	LOR(%)	100.0	S/MH(C90/270)	1.18
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	4481.0	η UP,DN(C0-180)	5.8,44.0
NOMINAL FLUX(lm)	4480.99	CIE CLASS	SEMI-D.	η UP,DN(C180-360)	5.8,44.5
LAMPS INSIDE	1	η up(%)	11.5	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	230.4	η down(%)	88.5	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



AVERAGE BEAM ANGLE(50%):114.6 DEG

C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2018-01-19

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.600m [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	1264	1256	1251	1255	1257	1259	1260	1261	0- 10	121.4	121.4	2.71,2.71
20	1198	1178	1158	1173	1187	1182	1174	1187	10- 20	345.4	466.8	10.4,10.4
30	1100	1059	1016	1053	1085	1063	1037	1071	20- 30	518.2	984.9	22,22
40	981.4	913.8	842.4	905.8	961.7	917.4	865.3	932.0	30- 40	620.0	1605	35.8,35.8
50	850.1	756.1	651.8	746.2	827.5	757.4	672.7	775.7	40- 50	646.4	2251	50.2,50.2
60	708.9	594.6	456.7	583.7	685.0	595.8	474.0	612.9	50- 60	603.3	2855	63.7,63.7
70	562.0	435.7	264.4	423.9	537.4	434.1	277.6	449.4	60- 70	505.0	3360	75,75
80	416.6	287.6	91.81	275.7	394.8	284.3	101.1	298.3	70- 80	369.5	3729	83.2,83.2
90	300.6	180.6	2.361	170.6	284.4	179.1	5.721	185.4	80- 90	234.4	3964	88.5,88.5
100	236.7	135.6	4.346	126.3	222.9	133.5	9.020	138.1	90-100	161.5	4125	92.1,92.1
110	184.9	102.9	7.139	95.73	173.2	101.7	9.305	101.6	100-110	119.5	4245	94.7,94.7
120	142.9	77.20	10.15	74.64	133.7	79.31	10.74	75.59	110-120	86.37	4331	96.7,96.7
130	109.2	53.97	12.91	59.71	101.7	62.85	12.88	52.49	120-130	59.81	4391	98,98
140	82.00	39.85	15.51	48.61	76.18	49.98	15.40	38.17	130-140	39.64	4430	98.9,98.9
150	60.37	31.48	18.82	39.23	55.61	39.66	18.48	30.62	140-150	25.62	4456	99.4,99.4
160	43.50	25.85	21.50	30.88	37.32	29.72	21.42	25.66	150-160	15.14	4471	99.8,99.8
170	26.61	23.45	23.63	24.53	22.34	24.48	23.51	23.85	160-170	7.559	4479	99.9,99.9
180	19.33	24.22	24.75	24.22	19.58	24.20	24.64	24.26	170-180	2.251	4481	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

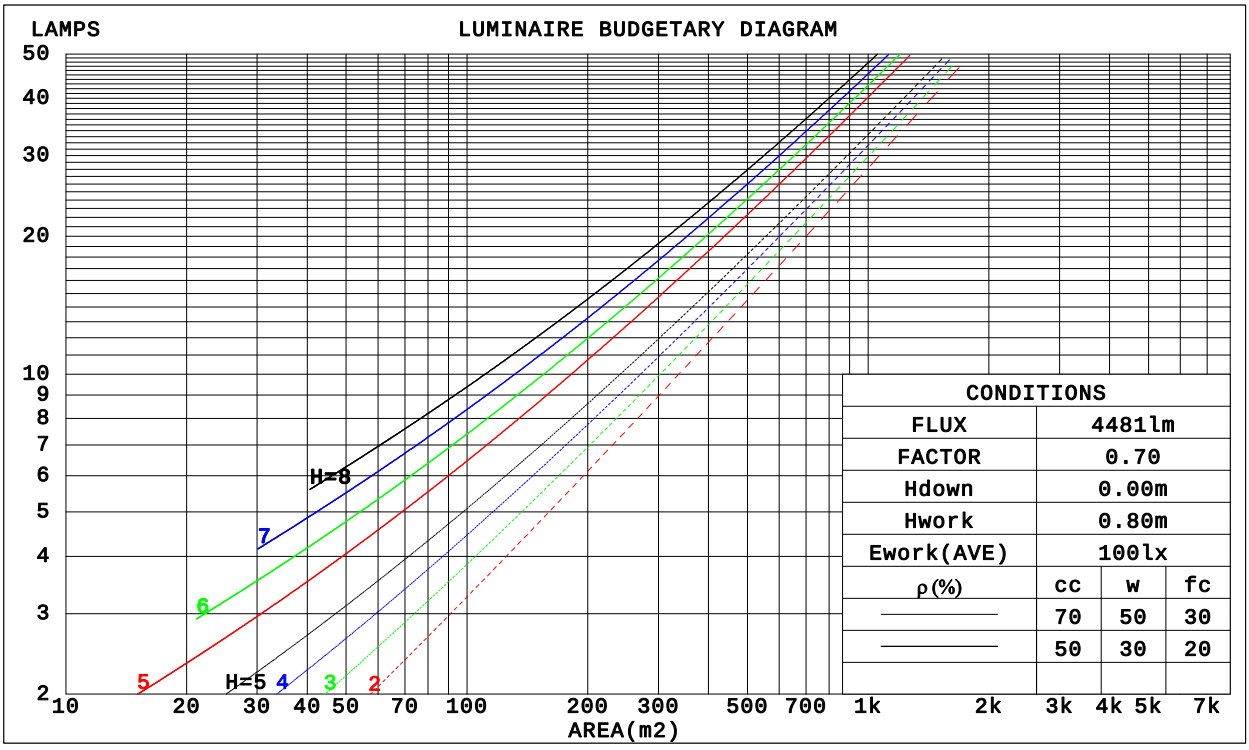
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2018-01-19

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.600m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.4V I:0.1810A P:40.50W PF:0.9670 Lamp Flux:4480.99x1 lm		
NAME: UP-DB31-1200-40W-5700K	TYPE:40W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:
MFR.:	SUR.:0.1392	PROTECTION ANGLE:

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio			Coefficients of Utilization(CU)												
0.0	1.16	1.16	1.16	1.12	1.12	1.12	1.05	1.05	1.05	.98	.98	.98	.91	.91	.91	.88
1.0	.99	.94	.90	.95	.91	.87	.89	.85	.82	.83	.80	.78	.78	.75	.73	.70
2.0	.85	.78	.72	.82	.76	.70	.77	.71	.67	.72	.67	.63	.67	.64	.60	.57
3.0	.75	.66	.59	.72	.64	.58	.67	.61	.55	.63	.58	.53	.59	.54	.51	.48
4.0	.66	.57	.50	.64	.55	.49	.60	.53	.47	.56	.50	.45	.53	.47	.43	.41
5.0	.59	.49	.43	.57	.48	.42	.53	.46	.40	.50	.44	.39	.47	.42	.37	.35
6.0	.53	.44	.37	.51	.43	.36	.48	.41	.35	.45	.39	.34	.43	.37	.33	.30
7.0	.48	.39	.33	.46	.38	.32	.44	.36	.31	.41	.35	.30	.39	.33	.29	.27
8.0	.43	.35	.29	.42	.34	.29	.40	.33	.28	.38	.31	.27	.36	.30	.26	.24
9.0	.40	.32	.26	.39	.31	.26	.37	.30	.25	.35	.29	.24	.33	.27	.23	.21
10.0	.37	.29	.23	.36	.28	.23	.34	.27	.23	.32	.26	.22	.31	.25	.21	.19



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2018-01-19

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.600m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:230.4V I:0.1810A P:40.50W PF:0.9670 Lamp Flux:4480.99x1 lm		
NAME: UP-DB31-1200-40W-5700K	TYPE:40W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:
MFR.:	SUR.:0.1392	PROTECTION ANGLE:

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio			Wall Exitance Coeffcients(WEC)												
0.0																
1.0	.352	.200	.063	.341	.195	.062	.321	.184	.059	.303	.175	.056	.286	.166	.053	
2.0	.313	.172	.053	.304	.167	.052	.286	.159	.049	.269	.151	.047	.254	.144	.045	
3.0	.283	.150	.045	.274	.147	.044	.258	.140	.042	.243	.133	.041	.229	.127	.039	
4.0	.257	.134	.039	.249	.130	.039	.235	.124	.037	.221	.119	.036	.209	.113	.035	
5.0	.235	.120	.035	.228	.117	.034	.215	.112	.033	.203	.107	.032	.191	.102	.031	
6.0	.217	.109	.031	.210	.106	.031	.198	.102	.030	.187	.097	.029	.177	.093	.028	
7.0	.201	.099	.028	.195	.097	.028	.184	.093	.027	.174	.089	.026	.164	.085	.025	
8.0	.187	.091	.026	.181	.089	.025	.172	.086	.024	.162	.082	.024	.153	.079	.023	
9.0	.174	.084	.024	.170	.083	.023	.161	.079	.023	.152	.076	.022	.144	.073	.021	
10.0	.164	.078	.022	.159	.077	.021	.151	.074	.021	.143	.071	.020	.136	.068	.020	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio			Ceiling Cavity Exitance Coefficients(CCEC)												
0.0	.278	.278	.278	.238	.238	.238	.162	.162	.162	.093	.093	.093	.030	.030	.030	
1.0	.272	.244	.220	.233	.210	.189	.159	.144	.131	.092	.084	.076	.029	.027	.025	
2.0	.264	.221	.185	.226	.190	.160	.155	.132	.111	.089	.077	.065	.029	.025	.021	
3.0	.257	.204	.162	.220	.176	.141	.151	.122	.099	.087	.071	.058	.028	.023	.019	
4.0	.249	.191	.147	.214	.165	.128	.147	.115	.090	.085	.067	.053	.027	.022	.018	
5.0	.241	.181	.137	.207	.157	.119	.143	.110	.084	.083	.064	.050	.027	.021	.016	
6.0	.234	.173	.129	.201	.150	.113	.139	.105	.080	.081	.062	.047	.026	.020	.016	
7.0	.227	.166	.124	.195	.144	.108	.135	.101	.077	.078	.060	.046	.025	.020	.015	
8.0	.221	.161	.120	.190	.139	.104	.131	.098	.074	.076	.058	.044	.025	.019	.015	
9.0	.214	.156	.116	.185	.135	.102	.128	.095	.072	.075	.056	.043	.024	.018	.014	
10.0	.209	.152	.114	.180	.132	.099	.125	.093	.071	.073	.055	.042	.024	.018	.014	

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2018-01-19

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.600m [K=1.0000]
Remarks:

Uncorrected UGR Table

Test:U:230.4V I:0.1810A P:40.50W PF:0.9670 Lamp Flux:4480.99x1 lm		
NAME: UP-DB31-1200-40W-5700K	TYPE:40W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:
MFR.:	SUR.:0.1392	PROTECTION 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	20.4	21.8	20.8	22.2	22.6	18.6	20.0	19.0	20.4	20.8
3H	22.6	23.9	23.1	24.3	24.8	20.0	21.3	20.4	21.7	22.2
4H	23.8	25.0	24.3	25.5	26.0	20.5	21.7	20.9	22.2	22.6
6H	25.1	26.3	25.6	26.7	27.2	20.8	21.9	21.3	22.4	22.9
8H	25.8	26.9	26.3	27.4	27.9	20.8	22.0	21.4	22.5	23.0
12H	26.6	27.7	27.1	28.2	28.7	20.9	21.9	21.4	22.4	23.0
4H 2H	20.9	22.1	21.3	22.5	23.0	19.5	20.8	20.0	21.2	21.7
3H	23.4	24.4	23.9	24.9	25.5	21.1	22.2	21.7	22.7	23.3
4H	24.7	25.7	25.3	26.2	26.8	21.8	22.8	22.4	23.3	23.9
6H	26.2	27.1	26.8	27.7	28.3	22.3	23.2	22.9	23.7	24.4
8H	27.0	27.9	27.6	28.4	29.0	22.5	23.3	23.0	23.8	24.5
12H	28.0	28.7	28.6	29.3	30.0	22.5	23.3	23.1	23.9	24.5
8H 4H	25.0	25.8	25.6	26.4	27.0	22.6	23.4	23.2	24.0	24.6
6H	26.8	27.5	27.4	28.1	28.7	23.4	24.1	24.0	24.7	25.3
8H	27.8	28.4	28.4	29.0	29.7	23.7	24.3	24.3	24.9	25.6
12H	28.9	29.5	29.6	30.1	30.8	23.9	24.5	24.6	25.1	25.8
12H 4H	25.0	25.8	25.6	26.4	27.0	22.8	23.6	23.4	24.1	24.8
6H	26.8	27.5	27.5	28.1	28.8	23.8	24.4	24.4	25.0	25.7
8H	27.9	28.5	28.6	29.1	29.8	24.2	24.8	24.9	25.4	26.1
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.2				
1.5H	+ 0.2 / - 0.2					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.4				

CIE Pub.117 Corrected 4481 lm Total Lamp Luminous Flux.(8log(F/F0) = 5.2)

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2018-01-19

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.600m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:230.4V I:0.1810A P:40.50W PF:0.9670 Lamp Flux:4480.99x1 lm		
NAME: UP-DB31-1200-40W-5700K	TYPE:40W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:
MFR.:	SUR.:0.1392	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) x RCR = 5									
k = 0.60	52	40	33	51	40	33	49	39	33	26
0.80	62	49	42	60	49	41	58	47	41	33
1.00	69	57	49	68	56	49	65	57	48	40
1.25	76	65	57	74	64	56	71	61	55	46
1.50	81	70	62	79	69	61	75	66	60	50
2.00	88	78	71	86	77	70	81	73	67	57
2.50	93	83	76	90	81	75	84	78	72	61
3.00	96	88	81	93	86	80	87	81	76	65
4.00	101	94	88	97	91	86	91	86	82	69
5.00	103	97	92	100	94	90	93	89	85	72
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004				Suspended					SHRNOM = 1.25	

C Range: 0 - 360DEG
C Interval: 30.0DEG
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Temperature:25.3DEG
Operators:DAMIN
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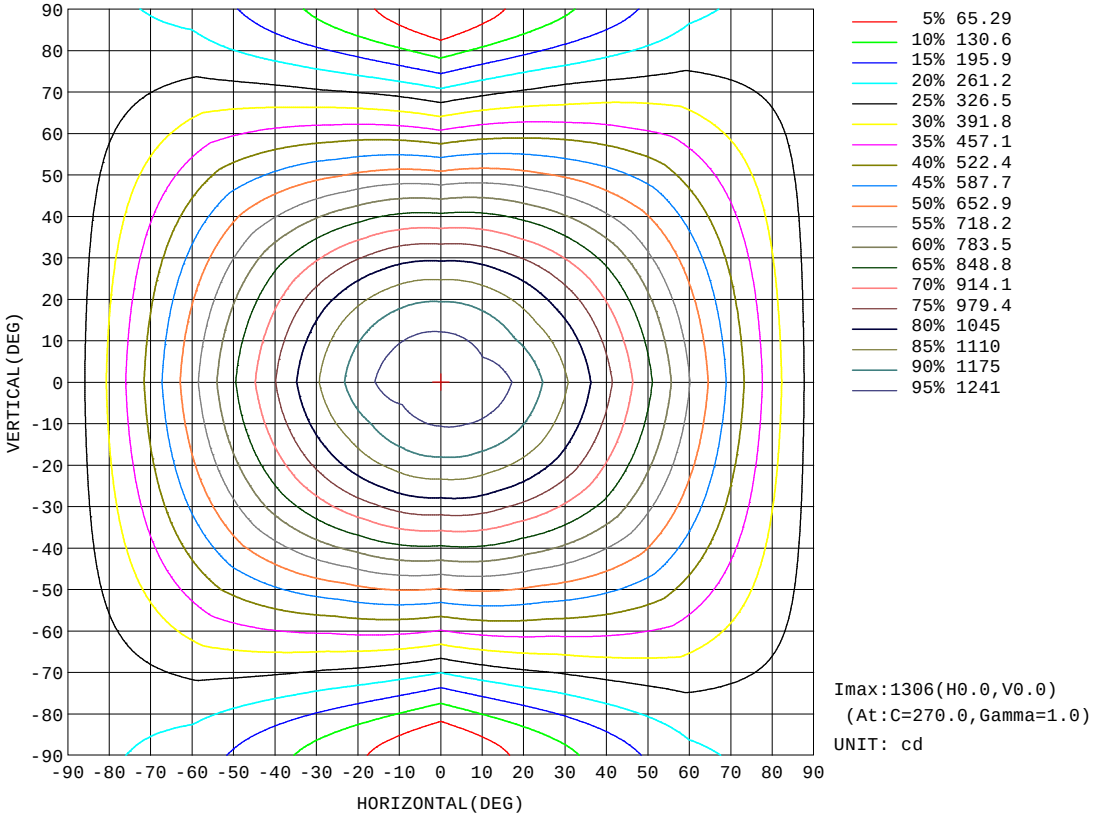
γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.600m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:230.4V I:0.1810A P:40.50W PF:0.9670 Lamp Flux:4480.99x1 lm		
NAME: UP-DB31-1200-40W-5700K	TYPE:40W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:
MFR.:	SUR.:0.1392	PROTECTION ANGLE:



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AAI Figure

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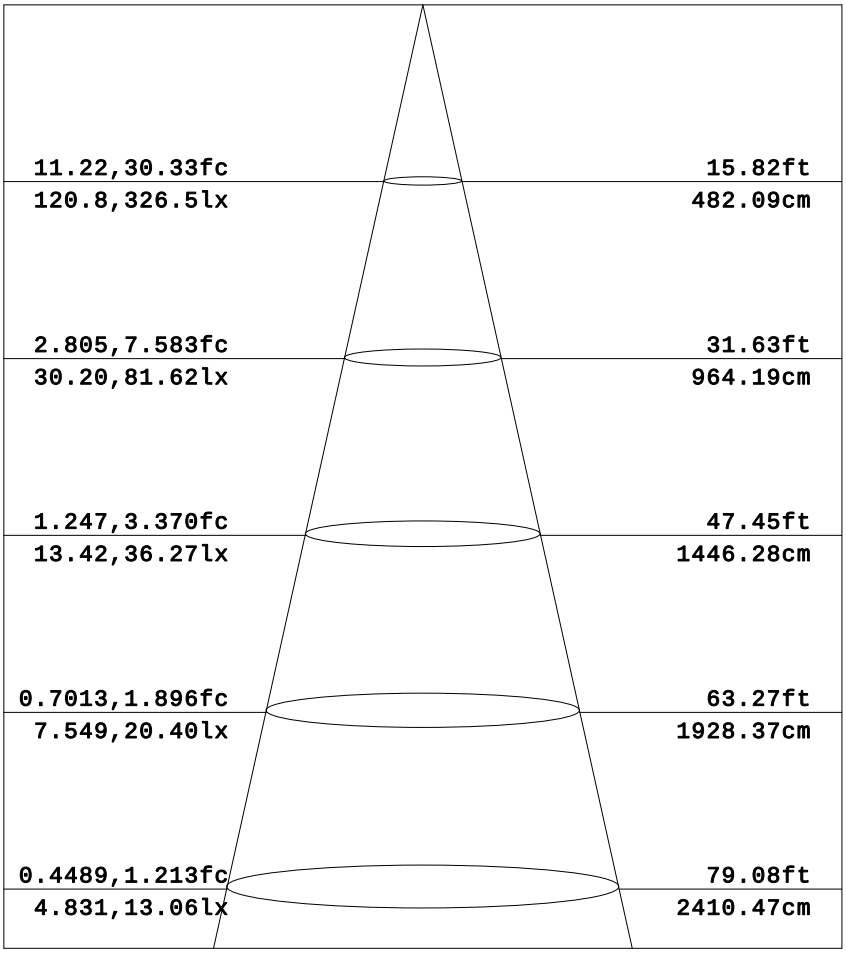
NAME: UP-DB31-1200-40W-5700K	TYPE:40W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:
MFR.:	SUR.:0.1392	PROTECTION ANGLE:

Flux out:2315 lm



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

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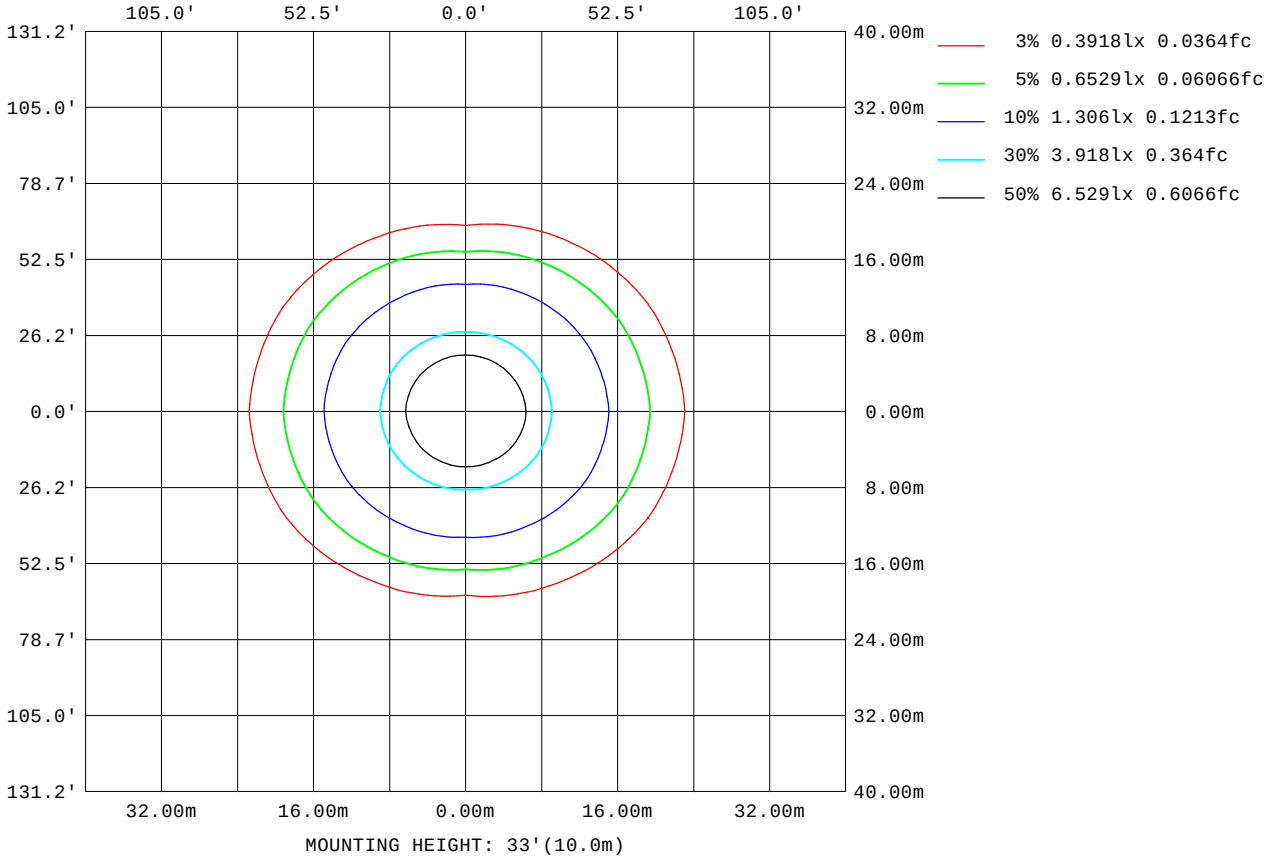
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.600m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:230.4V I:0.1810A P:40.50W PF:0.9670 Lamp Flux:4480.99x1 lm		
NAME: UP-DB31-1200-40W-5700K	TYPE:40W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:
MFR.:	SUR.:0.1392	PROTECTION ANGLE:



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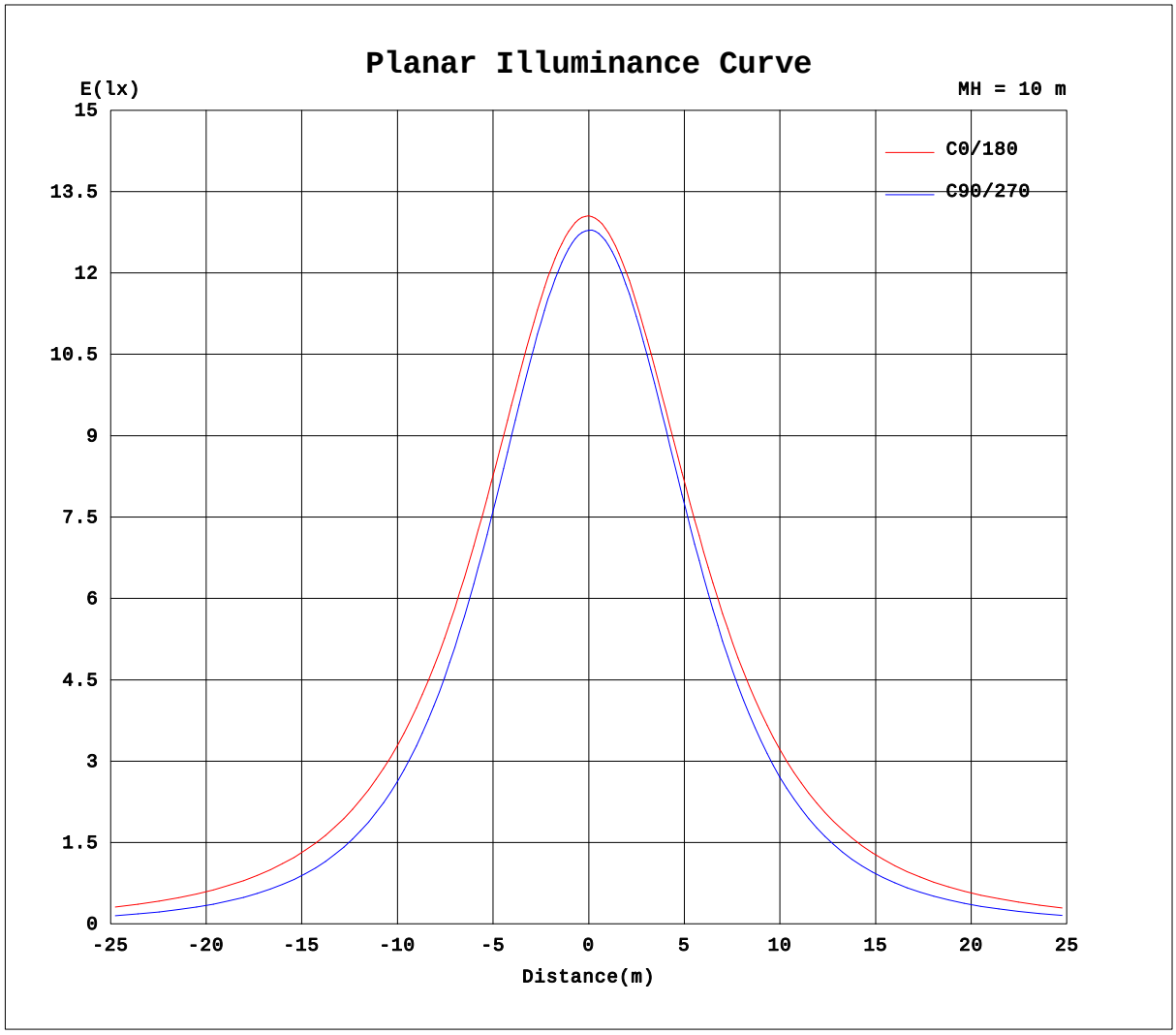
Remarks:

Planar Illuminance Curve



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Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.600m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:230.4V I:0.1810A P:40.50W PF:0.9670 Lamp Flux:4480.99x1 lm		
NAME: UP-DB31-1200-40W-5700K	TYPE:40W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:
MFR.:	SUR.:0.1392	PROTECTION ANGLE:

Table--1 UNIT: cd

γ (DEG) \ C(DEG)	0	30	60	90	120	150	180	210	240	270	300	330							
0	1285	1285	1285	1285	1285	1285	1285	1285	1285	1285	1285	1285							
5	1280	1278	1277	1276	1275	1278	1277	1278	1280	1281	1280	1280							
10	1264	1259	1253	1251	1252	1258	1257	1258	1260	1260	1260	1262							
15	1236	1229	1216	1212	1215	1225	1227	1227	1226	1224	1227	1233							
20	1198	1187	1168	1158	1165	1182	1187	1185	1178	1174	1181	1193							
25	1153	1138	1107	1093	1104	1131	1139	1133	1120	1110	1123	1143							
30	1100	1079	1038	1016	1034	1072	1085	1074	1051	1037	1056	1087							
35	1043	1016	961	933	956	1007	1025	1010	976	954	981	1027							
40	981	948	879	842	874	938	962	941	894	865	902	962							
45	917	877	795	748	789	866	896	869	808	770	822	890							
50	850	804	708	652	701	791	828	795	720	673	734	817							
55	780	729	622	554	614	716	757	719	632	573	647	741							
60	709	653	535	457	528	639	685	643	549	474	562	664							
65	636	577	451	360	443	563	611	568	462	375	477	591							
70	562	502	369	264	362	486	537	492	376	278	388	511							
75	488	427	291	174	283	412	464	416	295	186	313	436							
80	417	356	219	91.8	211	340	395	346	222	101	233	363							
85	351	292	157	28.5	150	278	331	285	158	35.4	167	298							
90	301	245	116	2.36	110	232	284	240	118	5.72	121	250							
95	267	216	95.9	3.21	89.8	203	252	210	97.9	9.24	100	220							
100	237	190	80.9	4.35	74.9	178	223	184	82.3	9.02	83.6	193							
105	210	167	69.4	5.73	63.9	156	197	162	70.5	9.05	70.9	168							
110	185	147	58.4	7.14	55.5	136	173	142	61.6	9.30	58.0	145							
115	163	130	48.1	8.63	49.4	119	152	124	54.8	9.92	49.0	128							
120	143	113	41.0	10.1	45.2	104	134	109	49.6	10.7	41.8	109							
125	125	90.3	36.1	11.5	41.9	91.4	117	95.4	45.3	11.8	36.7	89.0							
130	109	75.3	32.5	12.9	39.2	80.3	102	83.7	41.8	12.9	32.9	72.1							
135	94.8	62.3	29.6	14.1	36.9	70.7	88.2	73.3	38.7	13.9	29.6	52.6							
140	82.0	52.3	27.4	15.5	34.9	62.3	76.2	64.0	35.9	15.4	27.2	49.2							
145	70.6	44.2	25.8	17.3	32.6	54.9	65.3	55.7	33.5	17.0	26.3	41.4							
150	60.4	37.5	25.4	18.8	30.4	48.1	55.6	48.2	31.0	18.5	25.8	35.4							
155	51.4	32.1	24.8	20.1	27.4	41.9	45.8	41.2	27.6	20.0	25.2	30.3							
160	43.5	27.7	24.0	21.5	25.4	36.3	37.3	34.3	25.1	21.4	24.3	27.0							
165	36.6	25.2	24.0	22.7	23.8	30.2	29.7	28.1	23.7	22.6	24.1	25.0							
170	26.6	22.3	24.6	23.6	23.6	25.5	22.3	25.1	23.9	23.5	24.6	23.1							
175	20.2	23.2	24.9	24.4	23.9	23.8	19.6	24.3	24.4	24.3	24.8	23.7							
180	19.3	23.6	24.9	24.8	24.5	23.9	19.6	23.4	25.0	24.6	24.6	23.9							

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2018-01-19

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.600m [K=1.0000]
Remarks: