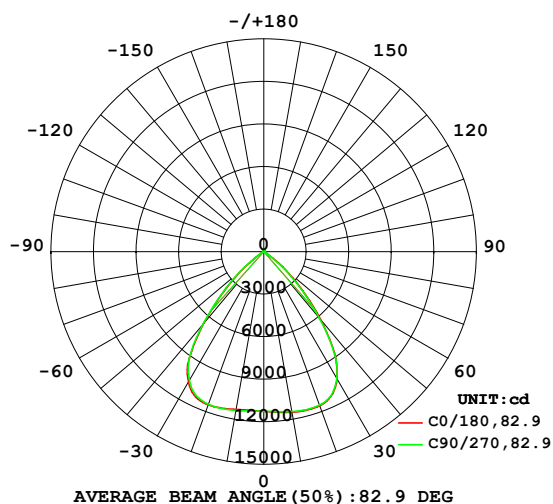


LUMINAIRE PHOTOMETRIC TEST REPORT

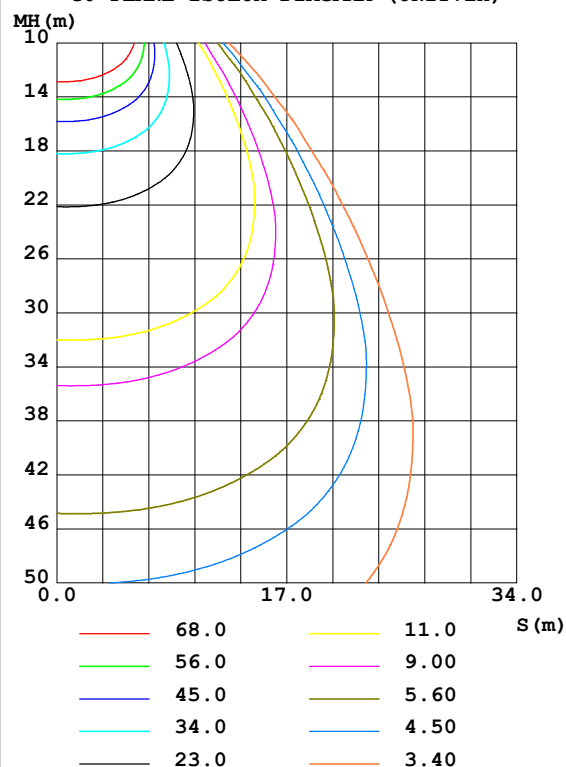
Test:U:120.6V I:1.022A P:123.0W PF:0.9980 Freq:59.98Hz Lamp Flux:18953.7x1 lm		
NAME: H17-RAL-120W-5K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC	SUR.:0.23	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 154.15 lm/W			
MODEL		I _{max} (cd)	11588	S/MH(C0/180)	1.20
NOMINAL POWER(W)	120	LOR(%)	100.0	S/MH(C90/270)	1.21
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	18954	□ UP,DN(C0-180)	0.5,48.8
NOMINAL FLUX(lm)	18953.7	CIE CLASS	DIRECT	□ UP,DN(C180-360)	0.5,50.2
LAMPS INSIDE	1	□ up(%)	1.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	120	□ down(%)	99.0	CIBSE SHR MAX	1.25

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.1DEG
Operators:Marvin Ma
Test Date:2022-09-01

□ Range: 0 - 180DEG
□ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.364
Humidity:56%
Test Distance:6.500m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

°	C0	C45	C90	C135	C180	C225	C270	C315	°	□ zone	□ total	%lum, lamp
10	1150	1150	1145	1136	1130	1129	1137	1146	0- 10	1082	1082	5.71,5.71
20	1155	1154	1151	1150	1149	1147	1145	1149	10- 20	3257	4339	22.9,22.9
30	1034	1023	1031	1060	1064	1069	1051	1032	20- 30	5151	9490	50.1,50.1
40	622.4	586.2	606.8	652.5	656.5	694.0	667.0	620.8	30- 40	5428	14917	78.7,78.7
50	207.3	185.2	182.7	203.4	198.6	217.8	215.0	196.5	40- 50	3068	17985	94.9,94.9
60	16.56	13.81	14.05	15.76	15.26	18.42	19.47	17.86	50- 60	662.7	18648	98.4,98.4
70	4.273	3.772	3.873	4.122	4.084	4.941	5.643	5.192	60- 70	82.13	18730	98.8,98.8
80	1.438	1.352	1.331	1.357	1.270	1.518	1.708	1.613	70- 80	28.90	18759	99,99
90	0.2805	0.2944	0.2889	0.2852	0.2592	0.2354	0.2316	0.2468	80- 90	7.696	18767	99,99
100	0.6381	0.6641	0.6623	0.6198	0.5808	0.5341	0.5450	0.5698	90-100	4.444	18771	99,99
110	1.380	1.402	1.415	1.309	1.279	1.171	1.232	1.253	100-110	9.699	18781	99.1,99.1
120	2.498	2.475	2.541	2.347	2.347	2.166	2.325	2.283	110-120	17.94	18799	99.2,99.2
130	3.819	3.677	3.865	3.544	3.702	3.383	3.658	3.514	120-130	26.86	18826	99.3,99.3
140	5.015	4.878	5.042	4.738	4.970	4.603	4.994	4.738	130-140	32.97	18859	99.5,99.5
150	5.959	6.092	6.040	6.006	6.033	5.950	6.037	6.102	140-150	34.17	18893	99.7,99.7
160	7.158	7.248	7.280	7.145	7.243	7.172	7.247	7.340	150-160	30.41	18923	99.8,99.8
170	8.504	8.467	8.564	8.389	8.547	8.425	8.561	8.557	160-170	22.16	18945	100,100
180	9.337	9.198	9.319	9.232	9.339	9.199	9.323	9.235	170-180	8.421	18954	100,100
DEG	LUMINOUS INTENSITY:×10cd									UNIT:lm		

Conical surface Flux(90deg): 16807 lm

%lum = 88.7%

%lamp = 88.7%

Conical surface Flux(120deg): 18648 lm

%lum = 98.4%

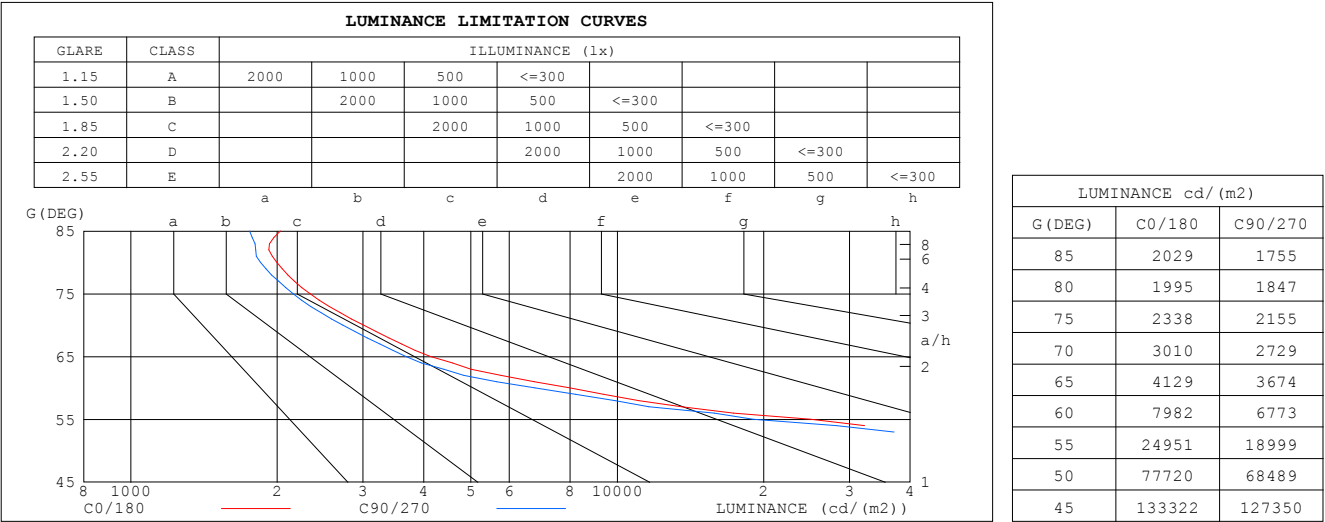
%lamp = 98.4%

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.1DEG
 Operators:Marvin Ma
 Test Date:2022-09-01

□ Range: 0 - 180DEG
 □ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.364
 Humidity:56%
 Test Distance:6.500m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:120.6V I:1.022A P:123.0W PF:0.9980 Freq:59.98Hz Lamp Flux:18953.7x1 lm		
NAME: H17-RAL-120W-5K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC	SUR.:0.23	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.1DEG
Operators:Marvin Ma
Test Date:2022-09-01

☐ Range: 0 - 180DEG
☐ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.364
Humidity:56%
Test Distance:6.500m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:120.6V I:1.022A P:123.0W PF:0.9980 Freq:59.98Hz Lamp Flux:18953.7x1 lm					
NAME: H17-RAL-120W-5K			TYPE:		WEIGHT:
SPEC.:			DIM.:		SERIAL No.:
MFR.: RAB LIGHTING INC			SUR.:0.23		Shielding Angle:

<input type="checkbox"/> cc	80%			70%			50%			30%			10%			0
<input type="checkbox"/> w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
<input type="checkbox"/> fc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients (WEC)									
0.0																
1.0	.202	.115	.036	.195	.111	.035	.181	.104	.033	.169	.098	.031	.158	.091	.029	
2.0	.196	.108	.033	.190	.105	.032	.179	.100	.031	.169	.095	.030	.159	.090	.028	
3.0	.189	.100	.030	.184	.098	.030	.174	.094	.029	.165	.090	.028	.156	.086	.027	
4.0	.181	.094	.028	.176	.092	.027	.167	.089	.027	.159	.086	.026	.152	.083	.025	
5.0	.172	.088	.025	.168	.086	.025	.161	.084	.025	.154	.081	.024	.147	.079	.024	
6.0	.165	.083	.024	.161	.081	.023	.154	.079	.023	.148	.077	.023	.142	.075	.022	
7.0	.157	.078	.022	.154	.077	.022	.148	.075	.022	.142	.073	.021	.137	.071	.021	
8.0	.150	.073	.021	.147	.072	.020	.142	.071	.020	.136	.069	.020	.132	.068	.020	
9.0	.143	.069	.019	.141	.069	.019	.136	.067	.019	.131	.066	.019	.127	.064	.019	
10.0	.137	.066	.018	.135	.065	.018	.130	.064	.018	.126	.063	.018	.122	.061	.018	

<input type="checkbox"/> cc	80%			70%			50%			30%			10%			0
<input type="checkbox"/> w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
<input type="checkbox"/> fc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.198	.198	.198	.169	.169	.169	.115	.115	.115	.066	.066	.066	.021	.021	.021	
1.0	.180	.165	.151	.154	.141	.130	.106	.097	.090	.061	.056	.052	.019	.018	.017	
2.0	.167	.140	.117	.143	.121	.101	.098	.083	.071	.057	.049	.041	.018	.016	.013	
3.0	.157	.121	.093	.134	.105	.081	.092	.073	.057	.053	.042	.034	.017	.014	.011	
4.0	.148	.107	.076	.127	.093	.066	.087	.065	.047	.050	.038	.028	.016	.012	.009	
5.0	.140	.096	.064	.120	.083	.055	.083	.058	.039	.048	.034	.023	.015	.011	.008	
6.0	.133	.087	.054	.115	.075	.047	.079	.053	.033	.046	.031	.020	.015	.010	.007	
7.0	.127	.080	.047	.110	.069	.041	.076	.049	.029	.044	.029	.017	.014	.009	.006	
8.0	.122	.074	.041	.105	.064	.036	.073	.045	.025	.042	.027	.015	.014	.009	.005	
9.0	.117	.069	.037	.101	.060	.032	.070	.042	.023	.041	.025	.014	.013	.008	.004	
10.0	.112	.065	.033	.097	.056	.029	.067	.040	.021	.039	.023	.012	.013	.008	.004	

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.1DEG
 Operators:Marvin Ma
 Test Date:2022-09-01

☐ Range: 0 - 180DEG
☐ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.364
 Humidity:56%
 Test Distance:6.500m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:120.6V I:1.022A P:123.0W PF:0.9980 Freq:59.98Hz Lamp Flux:18953.7x1 lm										
NAME: H17-RAL-120W-5K					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.: RAB LIGHTING INC					SUR.:0.23			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	25.6	26.7	25.9	26.9	27.1	25.4	26.6	25.7	26.8	27.0
3H	25.4	26.4	25.7	26.7	26.9	25.3	26.3	25.5	26.5	26.7
4H	25.3	26.3	25.6	26.5	26.8	25.2	26.1	25.5	26.4	26.6
6H	25.2	26.1	25.6	26.4	26.7	25.1	26.0	25.4	26.2	26.5
8H	25.2	26.0	25.5	26.3	26.6	25.0	25.9	25.4	26.2	26.5
12H	25.1	26.0	25.5	26.2	26.6	25.0	25.8	25.3	26.1	26.4
4H 2H	25.3	26.3	25.6	26.5	26.8	25.2	26.1	25.5	26.4	26.6
3H	25.1	26.0	25.5	26.3	26.6	25.0	25.8	25.3	26.1	26.4
4H	25.1	25.8	25.4	26.1	26.4	24.9	25.6	25.3	26.0	26.3
6H	25.0	25.6	25.4	26.0	26.3	24.8	25.5	25.2	25.8	26.2
8H	24.9	25.5	25.3	25.9	26.3	24.8	25.4	25.2	25.7	26.1
12H	24.9	25.4	25.3	25.8	26.2	24.7	25.3	25.1	25.7	26.1
8H 4H	24.9	25.5	25.3	25.9	26.3	24.8	25.4	25.2	25.7	26.1
6H	24.8	25.3	25.3	25.7	26.2	24.7	25.2	25.1	25.6	26.0
8H	24.8	25.2	25.2	25.6	26.1	24.6	25.0	25.1	25.5	25.9
12H	24.7	25.1	25.2	25.5	26.0	24.6	24.9	25.1	25.4	25.9
12H 4H	24.9	25.4	25.3	25.8	26.2	24.7	25.3	25.1	25.6	26.1
6H	24.8	25.2	25.2	25.6	26.1	24.6	25.0	25.1	25.5	25.9
8H	24.7	25.1	25.2	25.5	26.0	24.6	24.9	25.1	25.4	25.9
Variations with the observer position at spacings:										
S = 1.0H	+ 2.5 / -12.5					+ 2.5 / -13.2				
1.5H	+ 3.4 / -10.2					+ 3.5 / -10.2				
2.0H	+ 6.3 / -13.9					+ 6.4 / -13.9				

CIE Pub.117, 18954 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 10.2$)

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.1DEG
 Operators:Marvin Ma
 Test Date:2022-09-01

☐ Range: 0 - 180DEG
☐ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.364
 Humidity:56%
 Test Distance:6.500m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:120.6V I:1.022A P:123.0W PF:0.9980 Freq:59.98Hz Lamp Flux:18953.7x1 lm		
NAME: H17-RAL-120W-5K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC	SUR.:0.23	Shielding Angle:

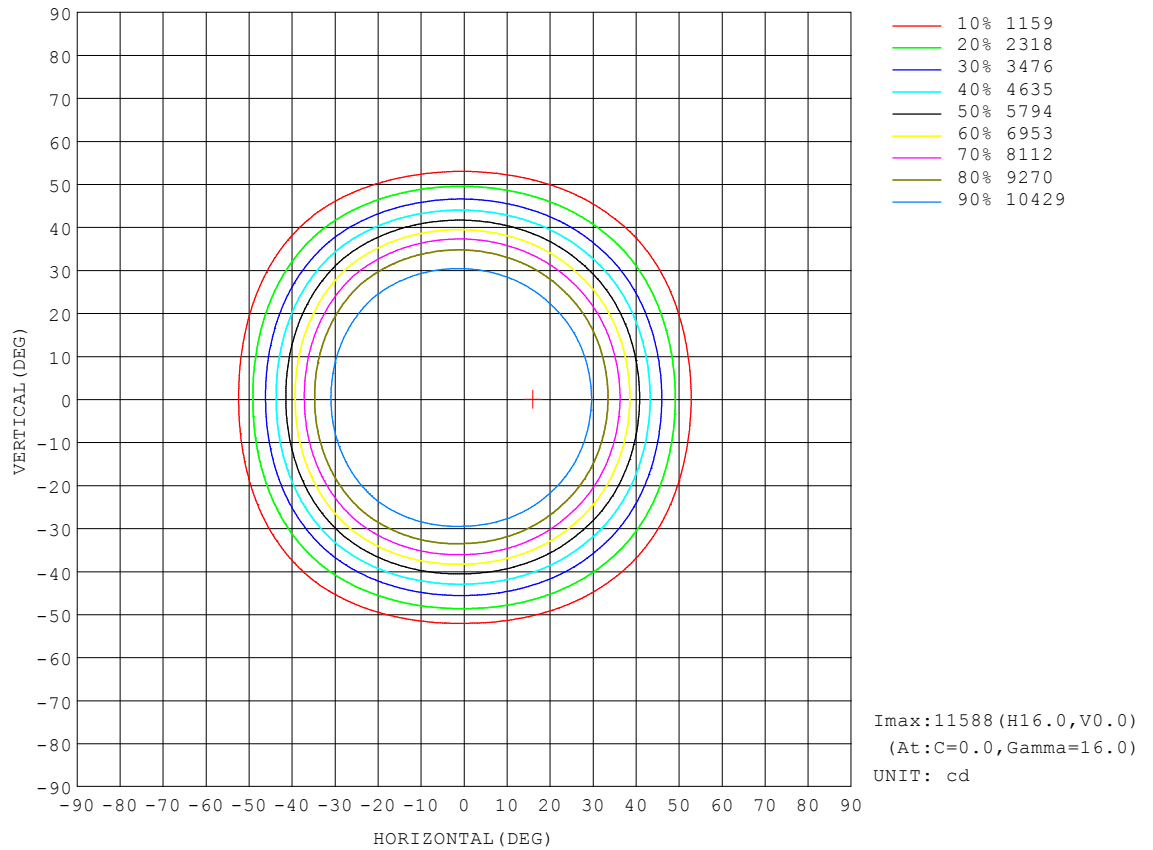
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	78	70	65	77	70	65	76	69	65	60
0.80	87	79	75	86	79	75	85	78	74	69
1.00	93	86	82	92	86	82	91	86	81	76
1.25	99	92	88	97	92	87	95	90	87	82
1.50	102	96	92	101	95	92	98	94	90	85
2.00	106	101	97	104	100	96	101	98	95	89
2.50	108	103	100	106	102	99	103	99	97	90
3.00	110	106	102	108	104	101	104	101	99	92
4.00	112	109	106	110	107	104	106	104	102	94
5.00	113	110	108	111	109	106	107	105	103	95
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: 25.1DEG
 Operators: Marvin Ma
 Test Date: 2022-09-01

☐ Range: 0 - 180DEG
☐ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.364
 Humidity: 56%
 Test Distance: 6.500m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:120.6V I:1.022A P:123.0W PF:0.9980 Freq:59.98Hz Lamp Flux:18953.7x1 lm		
NAME: H17-RAL-120W-5K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC	SUR.:0.23	Shielding Angle:

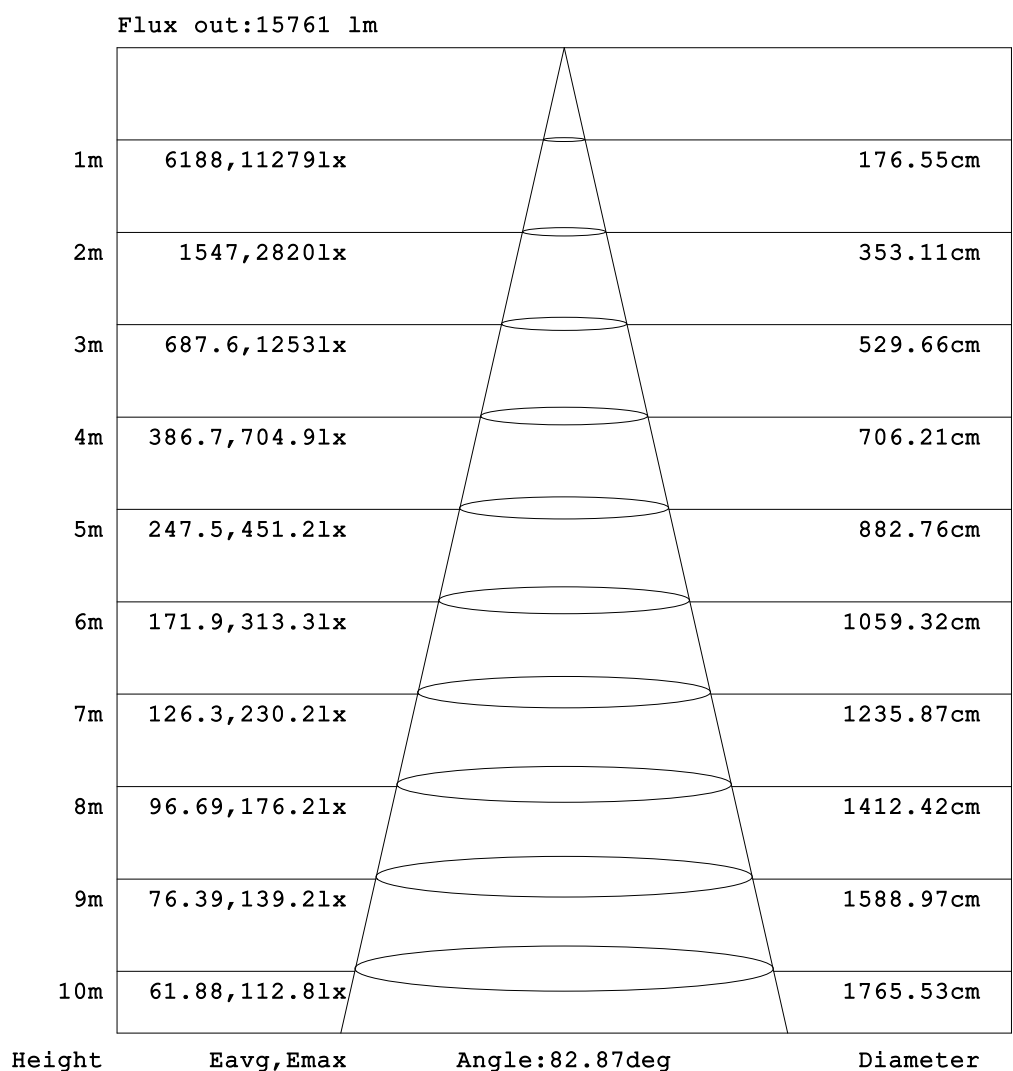


C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.1DEG
Operators:Marvin Ma
Test Date:2022-09-01

☐ Range: 0 - 180DEG
☐ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.364
Humidity:56%
Test Distance:6.500m [K=1.0000]
Remarks:

AAI Figure

Test:U:120.6V I:1.022A P:123.0W PF:0.9980 Freq:59.98Hz Lamp Flux:18953.7x1 lm		
NAME: H17-RAL-120W-5K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC	SUR.:0.23	Shielding Angle:

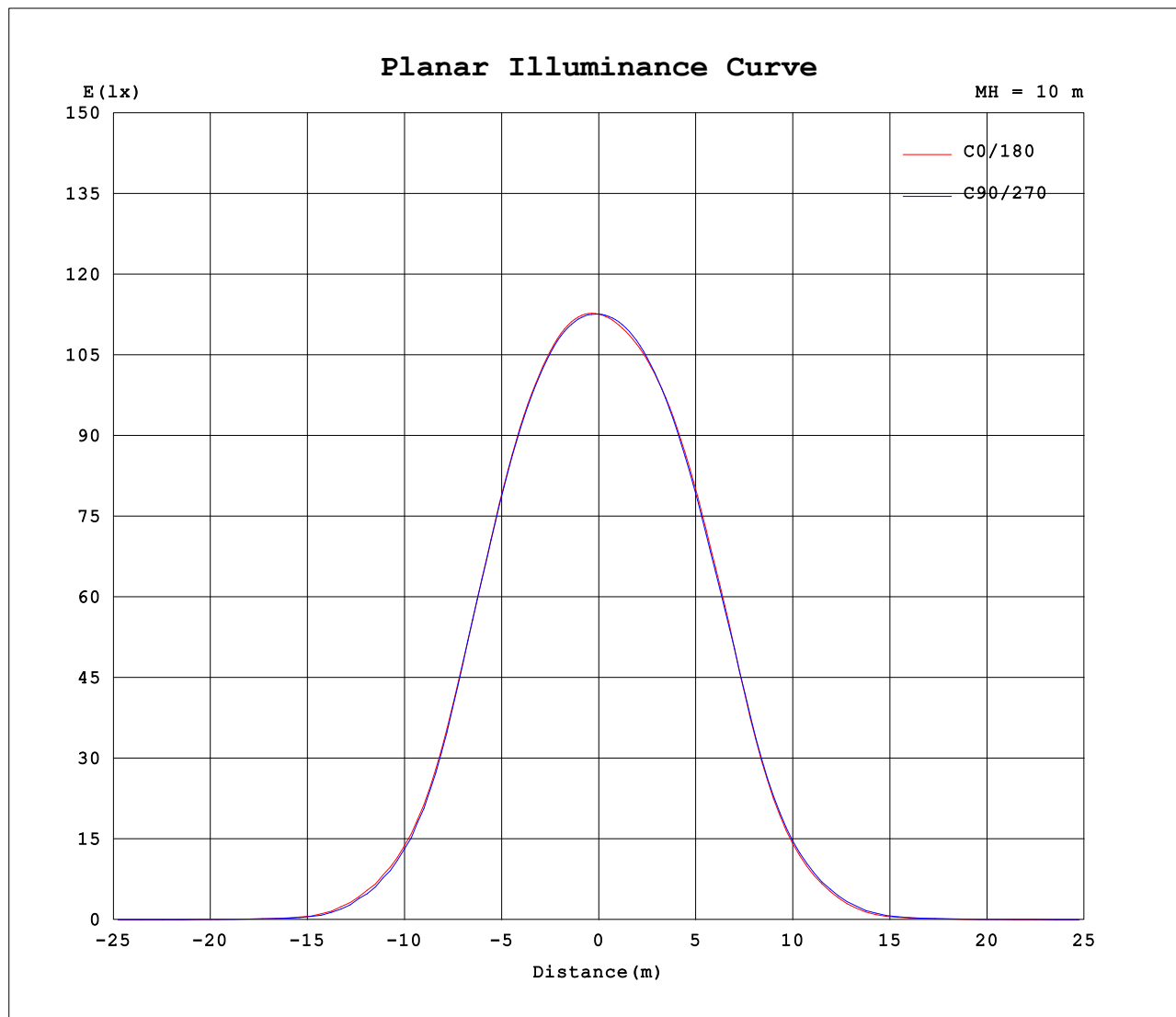


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.1DEG
 Operators: Marvin Ma
 Test Date: 2022-09-01

☐ Range: 0 - 180DEG
☐ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.364
 Humidity: 56%
 Test Distance: 6.500m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.1DEG
Operators: Marvin Ma
Test Date: 2022-09-01

☐ Range: 0 - 180DEG
☐ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.364
Humidity: 56%
Test Distance: 6.500m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.6V I:1.022A P:123.0W PF:0.9980 Freq:59.98Hz Lamp Flux:18953.7x1 lm								
NAME: H17-RAL-120W-5K					TYPE:			WEIGHT:
SPEC.:					DIM.:			SERIAL No.:
MFR.: RAB LIGHTING INC					SUR.:0.23			Shielding Angle:

Table--1

UNIT: ×10cd

C (DEG) □ (DEG)	0	45	90	135	180	225	270	315										
0	1126	1126	1126	1126	1126	1126	1126	1126										
5	1137	1137	1133	1127	1123	1123	1128	1134										
10	1150	1150	1145	1136	1130	1129	1137	1146										
15	1158	1158	1154	1146	1142	1141	1145	1153										
20	1155	1154	1151	1150	1149	1147	1145	1149										
25	1125	1121	1121	1131	1133	1132	1123	1118										
30	1034	1023	1031	1060	1064	1069	1051	1032										
35	871	845	865	909	916	943	918	882										
40	622	586	607	652	657	694	667	621										
45	391	364	374	395	400	426	414	382										
50	207	185	183	203	199	218	215	196										
55	59.4	43.1	45.2	55.3	50.9	64.4	65.7	57.6										
60	16.6	13.8	14.1	15.8	15.3	18.4	19.5	17.9										
65	7.24	6.24	6.44	6.86	6.85	8.29	9.32	8.62										
70	4.27	3.77	3.87	4.12	4.08	4.94	5.64	5.19										
75	2.51	2.29	2.31	2.44	2.36	2.85	3.25	3.00										
80	1.44	1.35	1.33	1.36	1.27	1.52	1.71	1.61										
85	0.73	0.67	0.63	0.65	0.54	0.63	0.70	0.70										
90	0.28	0.29	0.29	0.29	0.26	0.24	0.23	0.25										
95	0.42	0.44	0.44	0.42	0.38	0.35	0.35	0.37										
100	0.64	0.66	0.66	0.62	0.58	0.53	0.54	0.57										
105	0.95	0.98	0.98	0.92	0.88	0.80	0.83	0.86										
110	1.38	1.40	1.42	1.31	1.28	1.17	1.23	1.25										
115	1.90	1.91	1.94	1.79	1.78	1.63	1.74	1.73										
120	2.50	2.48	2.54	2.35	2.35	2.17	2.33	2.28										
125	3.16	3.08	3.20	2.95	3.02	2.77	2.98	2.90										
130	3.82	3.68	3.87	3.54	3.70	3.38	3.66	3.51										
135	4.47	4.27	4.51	4.15	4.39	4.00	4.37	4.13										
140	5.01	4.88	5.04	4.74	4.97	4.60	4.99	4.74										
145	5.47	5.54	5.54	5.44	5.50	5.31	5.52	5.46										
150	5.96	6.09	6.04	6.01	6.03	5.95	6.04	6.10										
155	6.50	6.63	6.60	6.54	6.60	6.56	6.61	6.71										
160	7.16	7.25	7.28	7.15	7.24	7.17	7.25	7.34										
165	7.87	7.89	7.97	7.79	7.94	7.82	7.93	7.99										
170	8.50	8.47	8.56	8.39	8.55	8.42	8.56	8.56										
175	9.00	8.91	9.04	8.88	9.00	8.89	9.03	9.00										
180	9.34	9.20	9.32	9.23	9.34	9.20	9.32	9.24										

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.1DEG
 Operators:Marvin Ma
 Test Date:2022-09-01

□ Range: 0 - 180DEG
 □ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.364
 Humidity:56%
 Test Distance:6.500m [K=1.0000]
 Remarks: