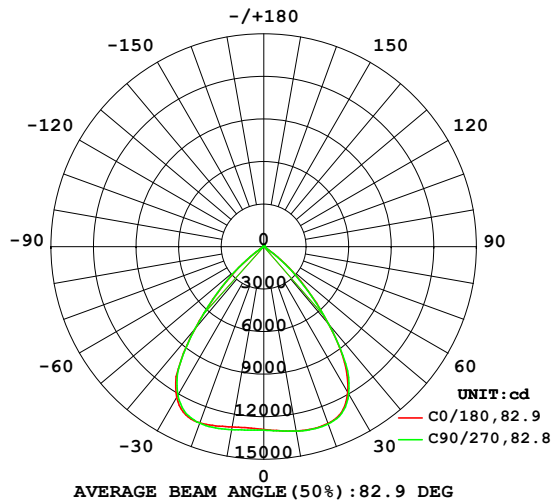


LUMINAIRE PHOTOMETRIC TEST REPORT

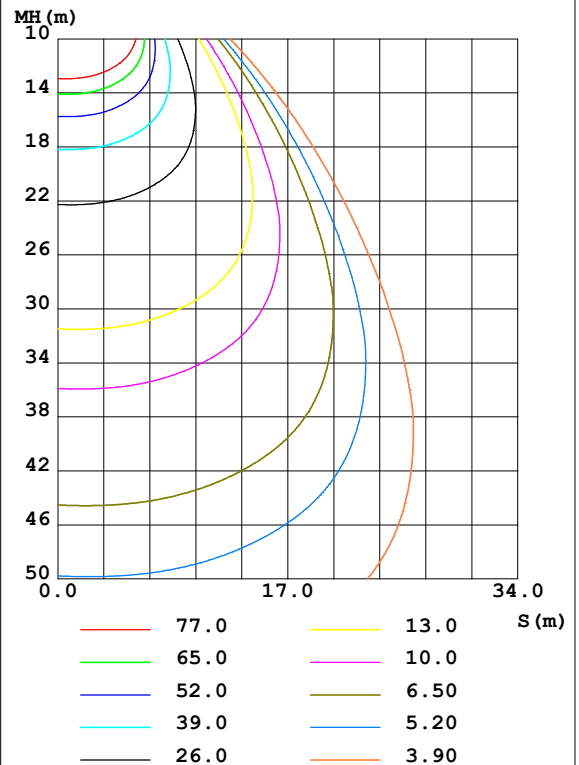
Test:U:120.5V I:1.170A P:140.7W PF:0.9979 Freq:59.97Hz Lamp Flux:21830.4x1 lm		
NAME: H17-RAL-150W-4K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC	SUR.:0.23	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 155.14 lm/W			
MODEL		I _{max} (cd)	13347	S/MH(C0/180)	1.20
NOMINAL POWER(W)	150	LOR(%)	100.0	S/MH(C90/270)	1.20
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	21830	□ UP,DN(C0-180)	0.5,49.0
NOMINAL FLUX(lm)	21830.4	CIE CLASS	DIRECT	□ UP,DN(C180-360)	0.5,50.0
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	1320	1324	1321	1309	1291	1294	1310	1325	0- 10	1244	1244	5.7,5.7
20	1327	1330	1331	1332	1322	1324	1324	1329	10- 20	3753	4997	22.9,22.9
30	1186	1177	1198	1235	1227	1236	1211	1189	20- 30	5950	10946	50.1,50.1
40	711.8	673.0	710.1	765.6	753.8	798.0	753.2	702.0	30- 40	6250	17196	78.8,78.8
50	234.5	211.3	220.1	240.7	227.2	251.4	238.1	217.0	40- 50	3529	20725	94.9,94.9
60	18.72	16.00	16.75	18.35	17.31	21.03	21.15	19.62	50- 60	754.5	21480	98.4,98.4
70	4.850	4.288	4.511	4.803	4.639	5.647	6.314	5.806	60- 70	93.41	21573	98.8,98.8
80	1.635	1.534	1.554	1.589	1.447	1.736	1.885	1.798	70- 80	32.87	21606	99,99
90	0.3231	0.3384	0.3278	0.3244	0.2972	0.2718	0.2718	0.2914	80- 90	8.772	21615	99,99
100	0.7321	0.7635	0.7495	0.7042	0.6677	0.6141	0.6454	0.6706	90-100	5.121	21620	99,99
110	1.585	1.616	1.607	1.492	1.462	1.350	1.456	1.474	100-110	11.18	21631	99.1,99.1
120	2.874	2.849	2.899	2.681	2.695	2.499	2.719	2.680	110-120	20.68	21652	99.2,99.2
130	4.390	4.237	4.429	4.065	4.232	3.901	4.251	4.106	120-130	30.97	21683	99.3,99.3
140	5.761	5.623	5.790	5.436	5.701	5.315	5.783	5.523	130-140	38.00	21721	99.5,99.5
150	6.844	7.015	6.938	6.889	6.935	6.862	6.999	7.090	140-150	39.38	21760	99.7,99.7
160	8.225	8.344	8.363	8.202	8.325	8.286	8.415	8.526	150-160	35.06	21795	99.8,99.8
170	9.781	9.765	9.871	9.645	9.831	9.725	9.916	9.899	160-170	25.56	21821	100,100
180	10.74	10.60	10.76	10.66	10.73	10.62	10.75	10.68	170-180	9.711	21830	100,100
DEG	LUMINOUS INTENSITY:×10cd									UNIT:lm		

Conical surface Flux(90deg): 19369 lm

%lum = 88.7%

%lamp = 88.7%

Conical surface Flux(120deg): 21480 lm

%lum = 98.4%

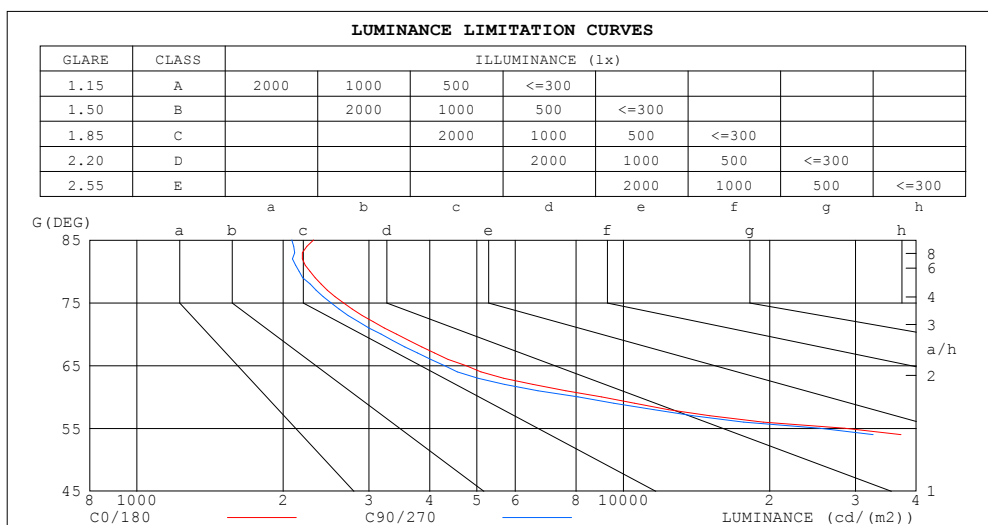
%lamp = 98.4%

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:120.5V I:1.170A P:140.7W PF:0.9979 Freq:59.97Hz Lamp Flux:21830.4x1 lm		
NAME: H17-RAL-150W-4K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC	SUR.:0.23	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	2310	2081
80	2269	2157
75	2656	2504
70	3417	3178
65	4743	4283
60	9020	8071
55	28522	25321
50	87916	82493
45	151921	148227

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:120.5V I:1.170A P:140.7W PF:0.9979 Freq:59.97Hz Lamp Flux:21830.4x1 lm		
NAME: H17-RAL-150W-4K	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	.194 .111 .035	.181 .104 .033	.169 .097 .031	.158 .091 .029	
2.0	.196 .108 .033	.190 .105 .032	.179 .099 .031	.168 .094 .030	.159 .090 .028	
3.0	.189 .100 .030	.183 .098 .030	.174 .094 .029	.164 .090 .028	.156 .086 .027	
4.0	.180 .094 .028	.176 .092 .027	.167 .089 .026	.159 .086 .026	.152 .082 .025	
5.0	.172 .088 .025	.168 .086 .025	.161 .084 .025	.154 .081 .024	.147 .079 .024	
6.0	.165 .082 .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	.116 .116 .116	.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	.156 .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:120.5V I:1.170A P:140.7W PF:0.9979 Freq:59.97Hz Lamp Flux:21830.4x1 lm										
NAME: H17-RAL-150W-4K					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	26.1	27.2	26.3	27.4	27.6	26.0	27.2	26.3	27.4	27.6
3H	25.9	26.9	26.2	27.1	27.4	25.9	26.9	26.1	27.1	27.3
4H	25.8	26.8	26.1	27.0	27.3	25.8	26.7	26.1	27.0	27.2
6H	25.7	26.6	26.0	26.9	27.1	25.7	26.6	26.0	26.8	27.1
8H	25.7	26.5	26.0	26.8	27.1	25.6	26.5	26.0	26.8	27.0
12H	25.6	26.4	26.0	26.7	27.0	25.6	26.4	25.9	26.7	27.0
4H 2H	25.8	26.8	26.1	27.0	27.3	25.8	26.7	26.1	27.0	27.2
3H	25.6	26.4	26.0	26.7	27.0	25.6	26.4	25.9	26.7	27.0
4H	25.5	26.3	25.9	26.6	26.9	25.5	26.2	25.9	26.6	26.9
6H	25.4	26.1	25.8	26.4	26.8	25.4	26.0	25.8	26.4	26.8
8H	25.4	26.0	25.8	26.4	26.7	25.4	25.9	25.8	26.3	26.7
12H	25.3	25.9	25.8	26.3	26.7	25.3	25.8	25.7	26.2	26.7
8H 4H	25.4	26.0	25.8	26.4	26.7	25.3	25.9	25.8	26.3	26.7
6H	25.3	25.8	25.7	26.2	26.6	25.3	25.7	25.7	26.2	26.6
8H	25.2	25.7	25.7	26.1	26.6	25.2	25.6	25.7	26.1	26.5
12H	25.2	25.6	25.7	26.0	26.5	25.2	25.5	25.6	26.0	26.5
12H 4H	25.3	25.9	25.8	26.3	26.7	25.3	25.8	25.7	26.2	26.7
6H	25.2	25.7	25.7	26.1	26.6	25.2	25.6	25.7	26.1	26.5
8H	25.2	25.6	25.7	26.0	26.5	25.2	25.5	25.6	26.0	26.5
Variations with the observer position at spacings:										
S = 1.0H	+ 2.5 / -12.7					+ 2.5 / -13.0				
1.5H	+ 3.4 / -10.5					+ 3.5 / -10.6				
2.0H	+ 6.3 / -14.0					+ 6.3 / -14.0				

CIE Pub.117, 21830 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 10.7$)

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:120.5V I:1.170A P:140.7W PF:0.9979 Freq:59.97Hz Lamp Flux:21830.4x1 lm		
NAME: H17-RAL-150W-4K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC	SUR.:0.23	Shielding Angle:

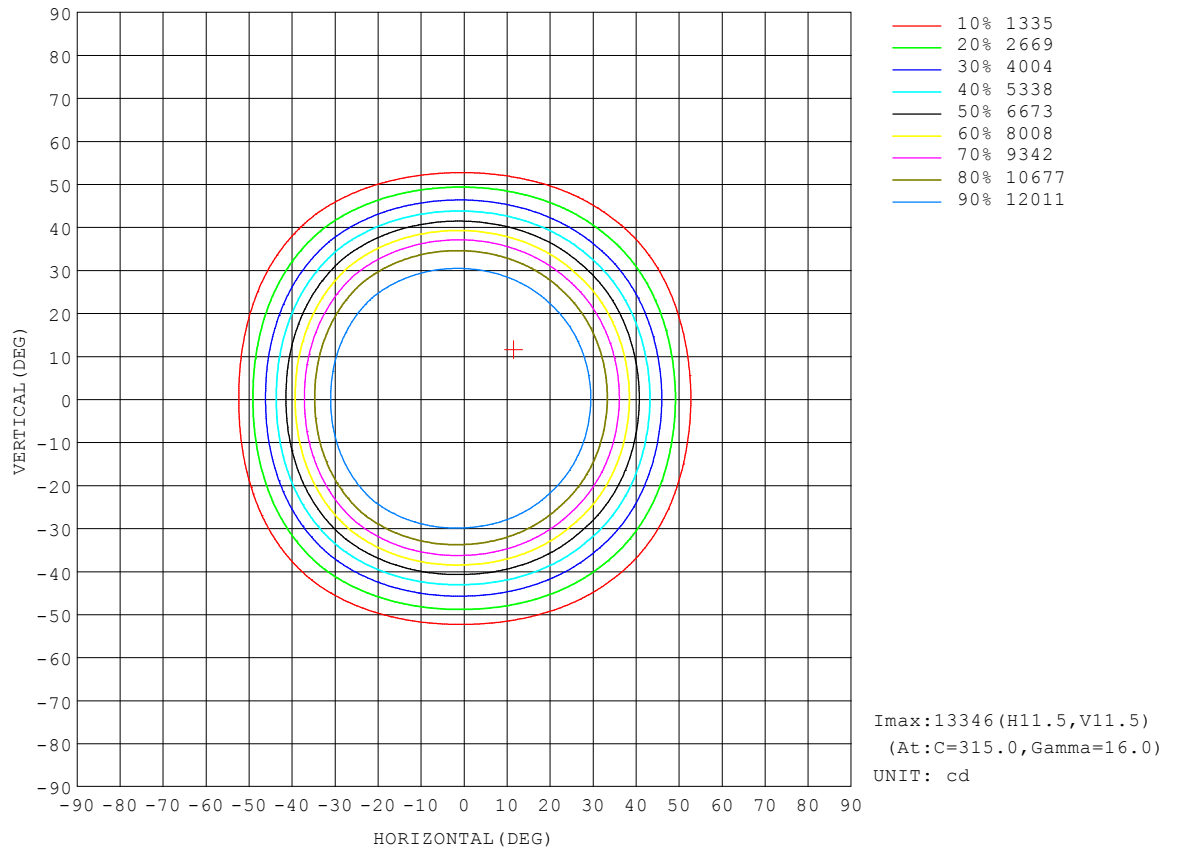
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	78	70	65	77	70	65	76	69	65	60
0.80	87	80	75	86	79	75	85	78	74	70
1.00	93	86	82	92	86	82	91	86	81	76
1.25	99	92	88	97	92	88	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:120.5V I:1.170A P:140.7W PF:0.9979 Freq:59.97Hz Lamp Flux:21830.4x1 lm		
NAME: H17-RAL-150W-4K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC	SUR.:0.23	Shielding Angle:

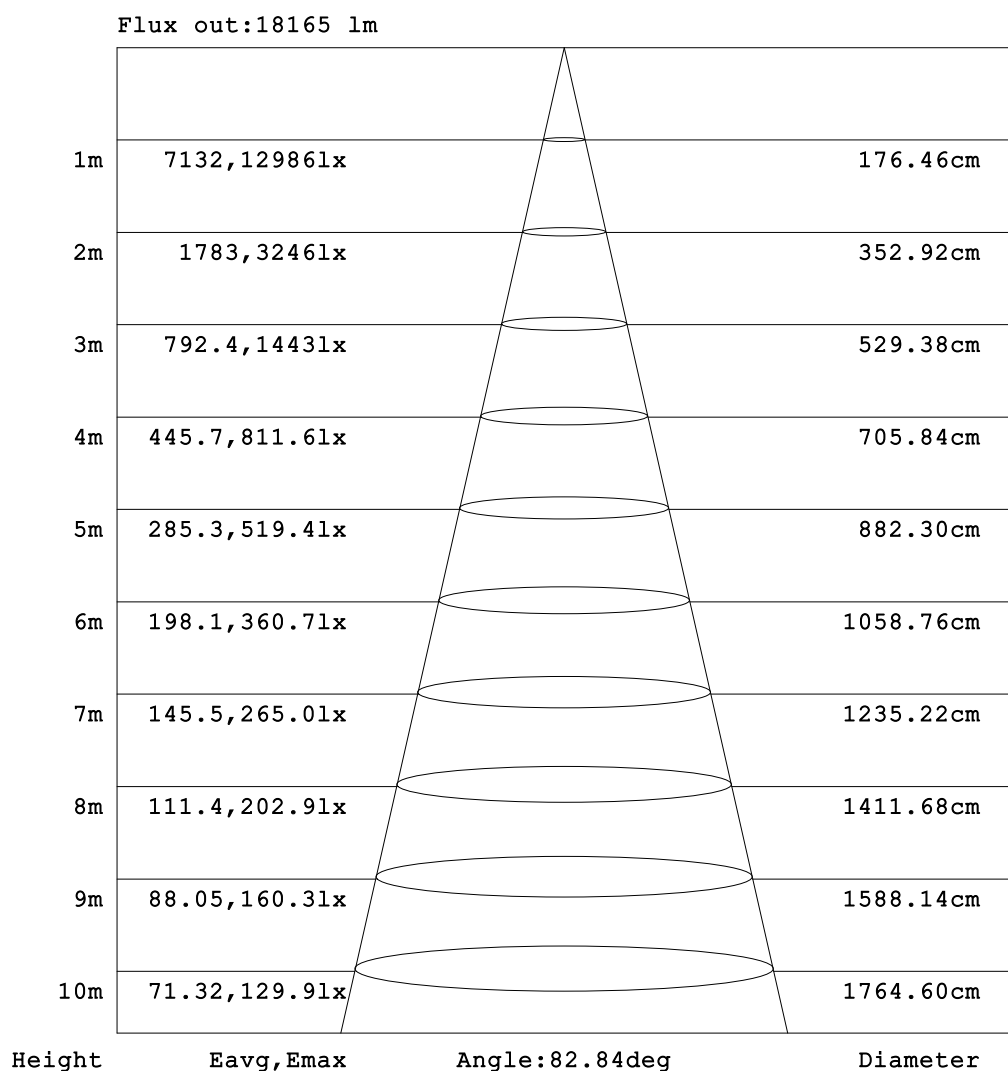


C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.1DEG
Operators:Marvin Ma
Test Date:2022-09-01

☐ 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:120.5V I:1.170A P:140.7W PF:0.9979 Freq:59.97Hz Lamp Flux:21830.4x1 lm		
NAME: H17-RAL-150W-4K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC	SUR.:0.23	Shielding Angle:

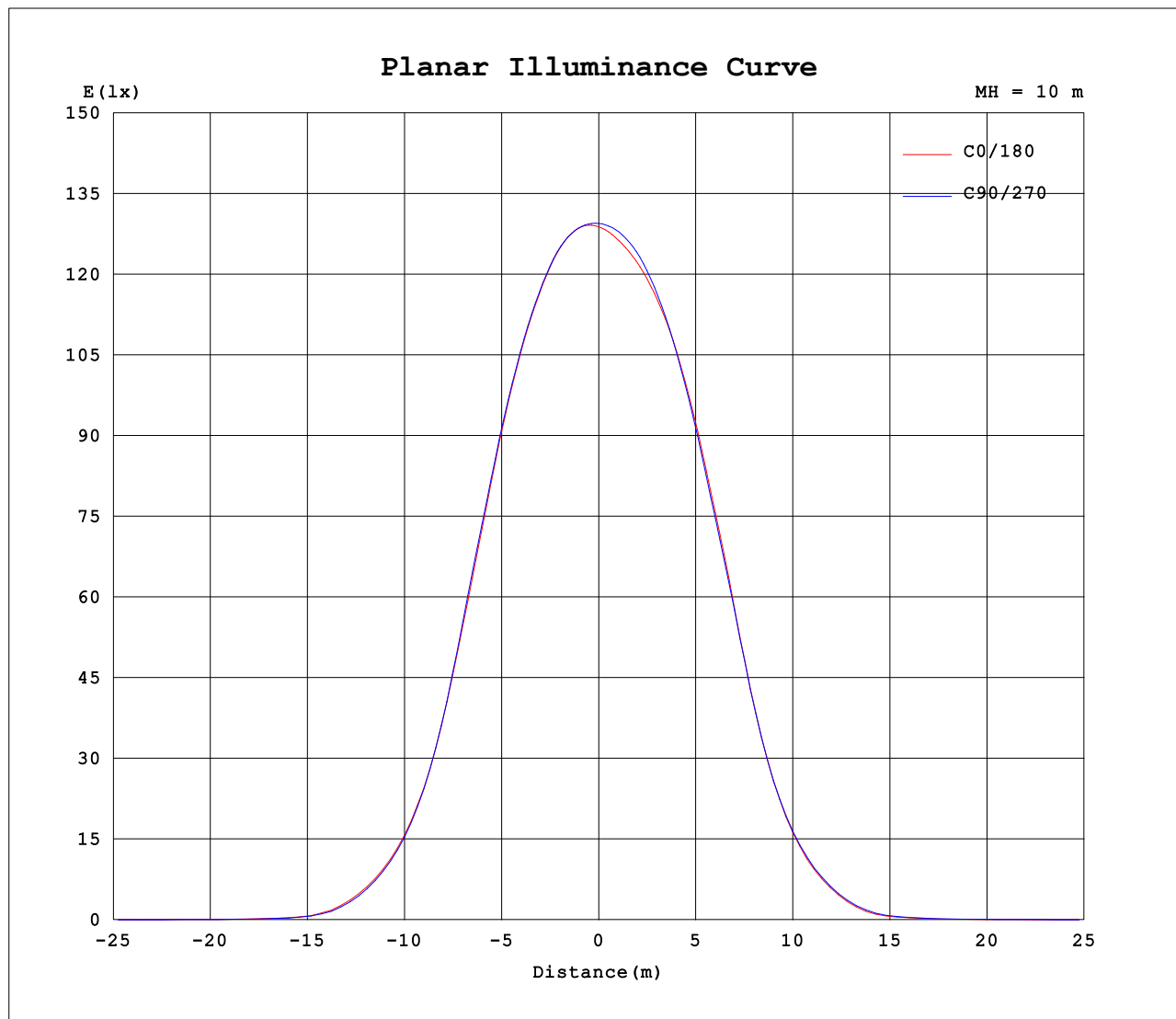


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:120.5V I:1.170A P:140.7W PF:0.9979 Freq:59.97Hz Lamp Flux:21830.4x1 lm		
NAME: H17-RAL-150W-4K	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	1288	1292	1295	1297	1288	1292	1295	1297										
5	1303	1307	1304	1297	1283	1286	1298	1309										
10	1320	1324	1321	1309	1291	1294	1310	1325										
15	1330	1334	1333	1324	1308	1311	1323	1334										
20	1327	1330	1331	1332	1322	1324	1324	1329										
25	1292	1293	1298	1314	1307	1309	1297	1292										
30	1186	1177	1198	1235	1227	1236	1211	1189										
35	995	968	1008	1065	1053	1088	1048	1003										
40	712	673	710	766	754	798	753	702										
45	446	416	435	469	460	492	466	430										
50	235	211	220	241	227	251	238	217										
55	67.9	50.7	60.3	66.4	56.4	74.0	66.3	61.8										
60	18.7	16.0	16.7	18.3	17.3	21.0	21.2	19.6										
65	8.32	7.10	7.51	8.00	7.78	9.38	10.4	9.66										
70	4.85	4.29	4.51	4.80	4.64	5.65	6.31	5.81										
75	2.85	2.60	2.69	2.84	2.69	3.26	3.62	3.36										
80	1.64	1.53	1.55	1.59	1.45	1.74	1.89	1.80										
85	0.84	0.77	0.75	0.78	0.62	0.72	0.76	0.77										
90	0.32	0.34	0.33	0.32	0.30	0.27	0.27	0.29										
95	0.48	0.50	0.49	0.47	0.44	0.40	0.41	0.44										
100	0.73	0.76	0.75	0.70	0.67	0.61	0.65	0.67										
105	1.10	1.13	1.12	1.04	1.00	0.93	0.98	1.01										
110	1.59	1.62	1.61	1.49	1.46	1.35	1.46	1.47										
115	2.18	2.19	2.21	2.04	2.03	1.88	2.04	2.03										
120	2.87	2.85	2.90	2.68	2.70	2.50	2.72	2.68										
125	3.63	3.55	3.66	3.37	3.46	3.20	3.48	3.39										
130	4.39	4.24	4.43	4.06	4.23	3.90	4.25	4.11										
135	5.14	4.92	5.18	4.76	5.02	4.61	5.06	4.82										
140	5.76	5.62	5.79	5.44	5.70	5.32	5.78	5.52										
145	6.29	6.38	6.36	6.24	6.31	6.12	6.39	6.36										
150	6.84	7.02	6.94	6.89	6.93	6.86	7.00	7.09										
155	7.47	7.63	7.59	7.50	7.58	7.58	7.67	7.79										
160	8.23	8.34	8.36	8.20	8.33	8.29	8.41	8.53										
165	9.04	9.09	9.16	8.95	9.12	9.04	9.21	9.27										
170	9.78	9.76	9.87	9.64	9.83	9.72	9.92	9.90										
175	10.3	10.3	10.4	10.2	10.4	10.3	10.4	10.4										
180	10.7	10.6	10.8	10.7	10.7	10.6	10.7	10.7										

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: