

Floodlight Summary:

Report based on lamp delivering 1000 lumens.

Maximum Intensity	429.1 cd per klm.
(Luminaire orientation as tested.)	0.0 degrees vertical
	-4.0 degrees horizontal

Beam Spread	At 10% of Imax	150.1V x 151.0H
	At 50% of Imax	117.0V x 116.6H
	At 90% of Imax	53.5V x 54.9H

Beam Flux	Total	1211.0 lumens per klm.
	To 10% of Imax	1196.4 lumens per klm.
	To 50% of Imax	967.4 lumens per klm.
	To 90% of Imax	273.7 lumens per klm.

Upward LOR	0.0 %
Downward LOR	121.1 %

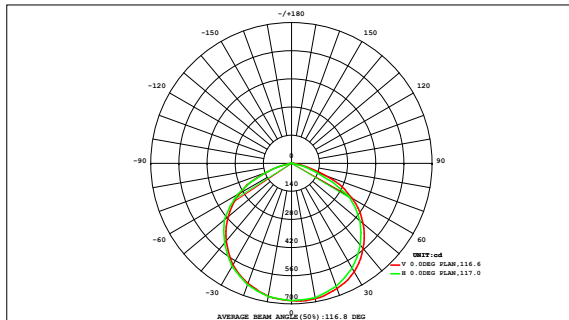
Luminaire Efficiency (Light Output Ratio)	121.4 %
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H(β) Range:-90 - 90DEG
H(β) Interval: 2.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:
Test Date:01 July 2022

V(B) Range:-80 - 80DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.456
Humidity:65.0%
Test Distance:6.265m [K=1.0000]
Remarks:

LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: 98Helios20SEN	TYPE: 98Helios20SEN	WEIGHT: 0.259
SPEC.:	DIM.: 0.132 x 0.145 x 0.105	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangular	Shielding Angle:



DATA OF LAMP		PHOTOMETRIC DATA	
MODEL	98Helios20SEN	Imax (cd)	686.6
NOMINAL POWER (W)	20	AVAILABILITY (%)	120.1
RATED VOLTAGE (V)	230	Avai. FLUX (lm)	1922
NOMINAL FLUX (lm)	1600	LOR (%)	121.4
LAMPS INSIDE	1	TOTAL FLUX (lm)	1942
TEST VOLTAGE (V)	230	θ @50% (H,V)	117,117DEG

VERTICAL (DEG)	AREA FLUX DIAGRAM																UNIT:lm		Φ t	Φ a
	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	0.00
90	0.00	0.01	0.09	0.33	0.69	1.11	1.41	1.64	1.74	1.71	1.54	1.26	0.93	0.50	0.21	0.05	0.01	0.00	13.3	9.79
80	0.00	0.05	0.46	1.46	2.89	4.33	5.48	6.30	6.68	6.56	5.96	4.96	3.75	2.28	1.00	0.26	0.03	0.00	52.4	50.6
70	0.00	0.18	1.16	3.14	5.54	7.67	9.57	10.9	11.5	11.4	10.4	8.86	6.87	4.75	2.41	0.75	0.08	0.00	95.3	94.4
60	0.00	0.35	1.83	4.53	7.26	9.97	12.3	13.9	14.7	14.5	13.4	11.5	9.03	6.40	3.76	1.33	0.19	0.00	125	124
50	0.01	0.52	2.49	5.52	8.63	11.7	14.3	16.1	16.9	16.7	15.5	13.5	10.7	7.69	4.73	1.92	0.31	0.00	147	147
40	0.01	0.67	3.02	6.31	9.76	13.2	16.0	17.9	18.8	18.6	17.3	15.1	12.1	8.75	5.48	2.43	0.42	0.01	166	166
30	0.02	0.76	3.39	6.86	10.6	14.2	17.2	19.1	20.1	19.8	18.6	16.2	13.1	9.48	5.99	2.74	0.52	0.01	179	178
20	0.02	0.81	3.56	7.16	11.0	14.7	17.7	19.8	20.7	20.5	19.1	16.8	13.6	9.87	6.26	2.91	0.57	0.01	185	185
10	0.02	0.81	3.57	7.19	11.0	14.7	17.8	19.8	20.7	20.6	19.2	16.8	13.6	9.89	6.26	2.91	0.57	0.01	186	185
0	0.02	0.75	3.39	6.93	10.6	14.3	17.3	19.4	20.3	20.1	18.7	16.4	13.2	9.56	6.02	2.76	0.53	0.01	180	180
-10	0.01	0.66	3.02	6.39	9.90	13.4	16.3	18.3	19.1	18.9	17.6	15.4	12.3	8.84	5.50	2.43	0.43	0.00	168	168
-20	0.01	0.51	2.48	5.59	8.78	11.9	14.6	16.5	17.3	17.2	15.9	13.8	10.9	7.82	4.79	1.97	0.31	0.00	150	150
-30	0.00	0.34	1.81	4.53	7.36	10.1	12.5	14.2	15.0	14.8	13.6	11.7	9.19	6.49	3.81	1.37	0.19	0.00	127	126
-40	0.00	0.17	1.11	3.20	5.66	7.93	9.90	11.3	11.9	11.8	10.8	9.12	7.02	4.83	2.53	0.78	0.08	0.00	98.1	97.3
-50	0.00	0.05	0.51	1.59	3.27	4.80	6.06	6.95	7.32	7.16	6.43	5.31	3.96	2.52	1.04	0.27	0.02	0.00	57.2	55.4
-60	0.00	0.01	0.06	0.23	0.54	1.01	1.34	1.59	1.71	1.66	1.48	1.19	0.87	0.37	0.13	0.02	0.01	0.00	12.2	4.80
-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	0.00	0.00	0.01	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	0.01	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	0.01	0.00
	-90	-80	-70	-60	-50	-40	-30	-20	HORIZONTAL (DEG)	20	30	40	50	60	70	80	90			
Φ t	0.14	6.66	32.0	71.0	113	155	190	214	225	222	206	178	141	100	59.9	24.9	4.28	0.07	1942	---
Φ a	0.00	4.60	30.7	69.7	112	154	189	213	224	221	205	177	140	98.7	58.6	23.3	2.29	0.00	---	1922

one-half-peak spread: U:59.5,D:58.0 , L:56.5,R:60.5

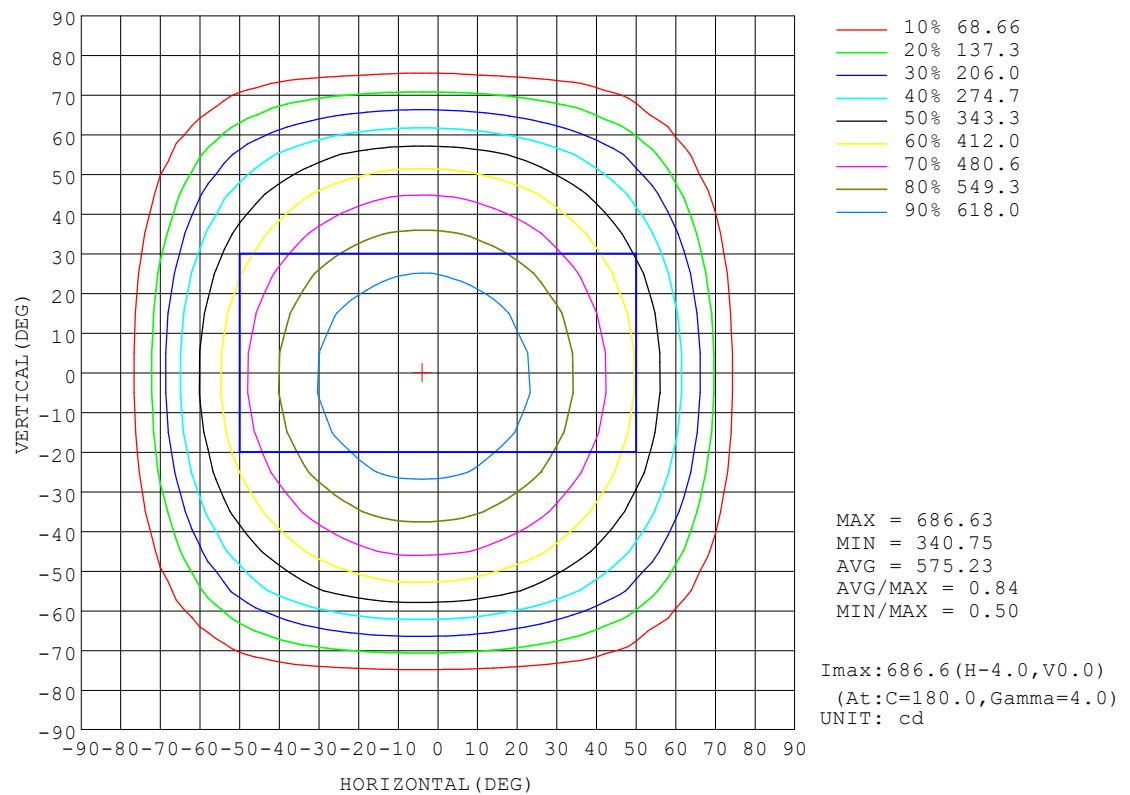
NEMA Beam Type: Type 7

H(β) Range:-90 - 90DEG
H(β) Interval: 2.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:
Test Date:01 July 2022

V(B) Range:-80 - 80DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.456
Humidity:65.0%
Test Distance:6.265m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

NAME: 98Helios20SEN	TYPE: 98Helios20SEN	WEIGHT: 0.259
SPEC.:	DIM.: 0.132 x 0.145 x 0.105	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangular	Shielding Angle:

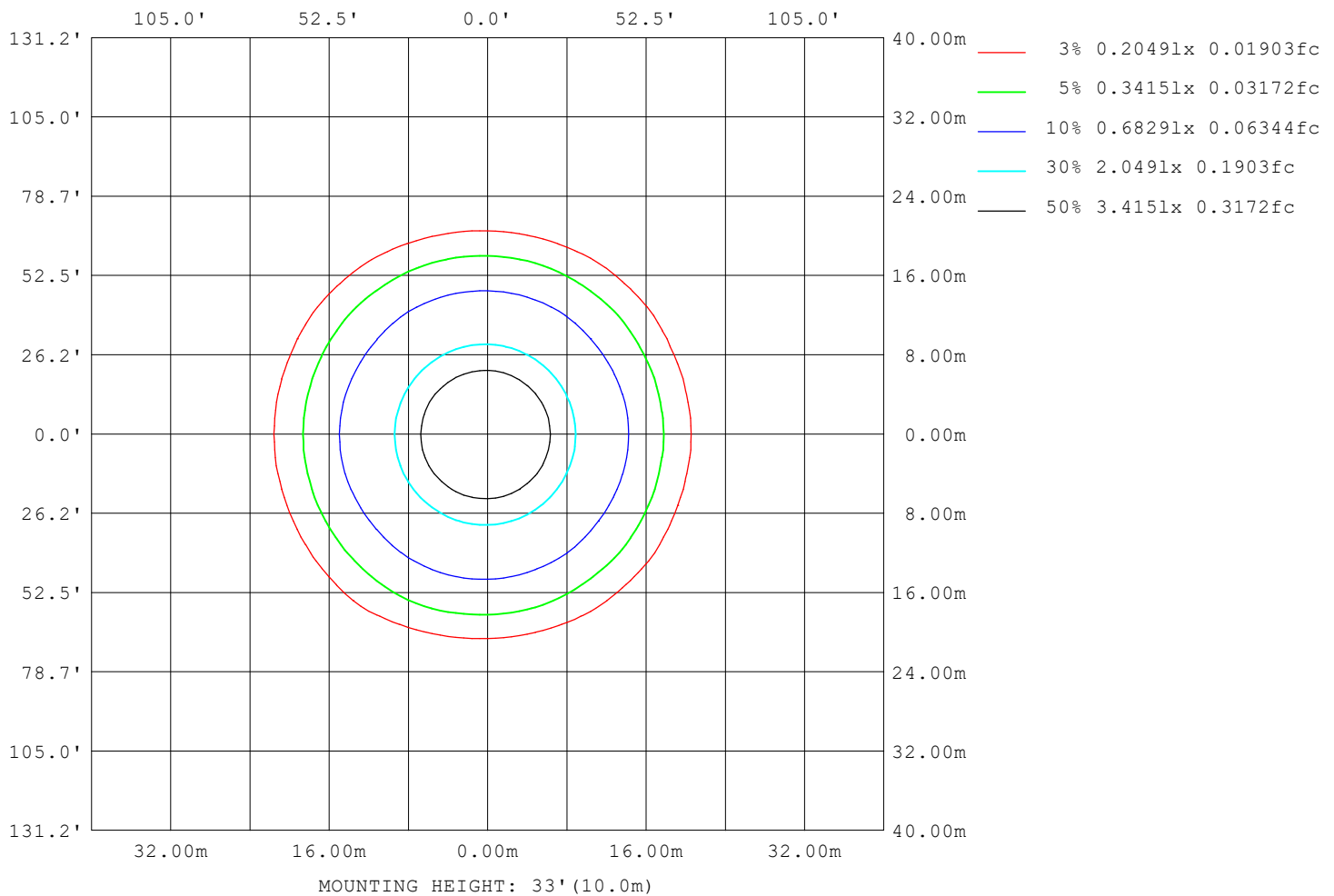


H(β) Range:-90 - 90DEG
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 Remarks:

ISOLUX DIAGRAM

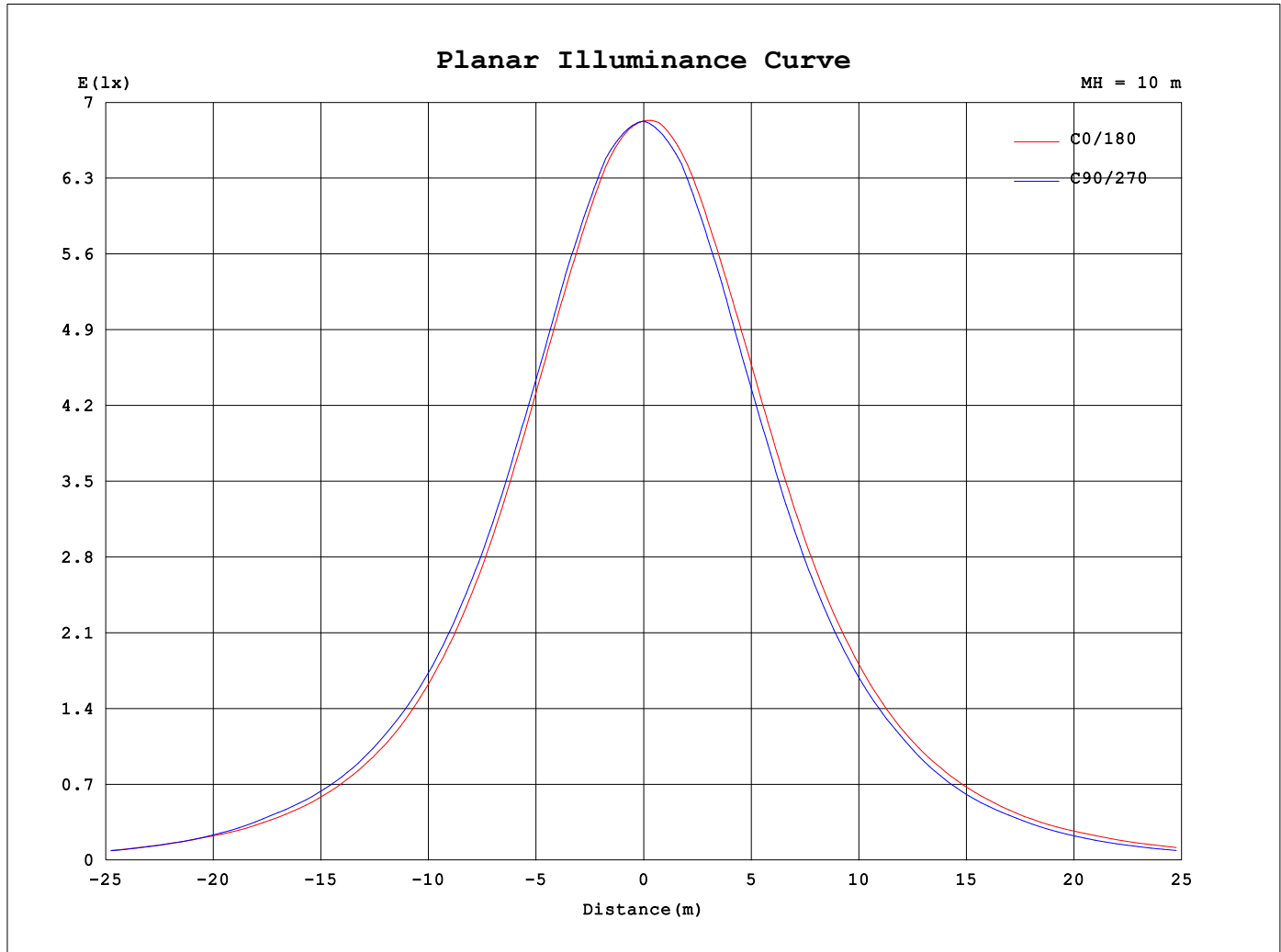
NAME: 98Helios20SEN	TYPE: 98Helios20SEN	WEIGHT: 0.259
SPEC.:	DIM.: 0.132 x 0.145 x 0.105	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangular	Shielding Angle:



H(β) Range:-90 - 90DEG
H(β) Interval: 2.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:
Test Date:01 July 2022

V(B) Range:-80 - 80DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.456
Humidity:65.0%
Test Distance:6.265m [K=1.0000]
Remarks:

Planar Illuminance Curve

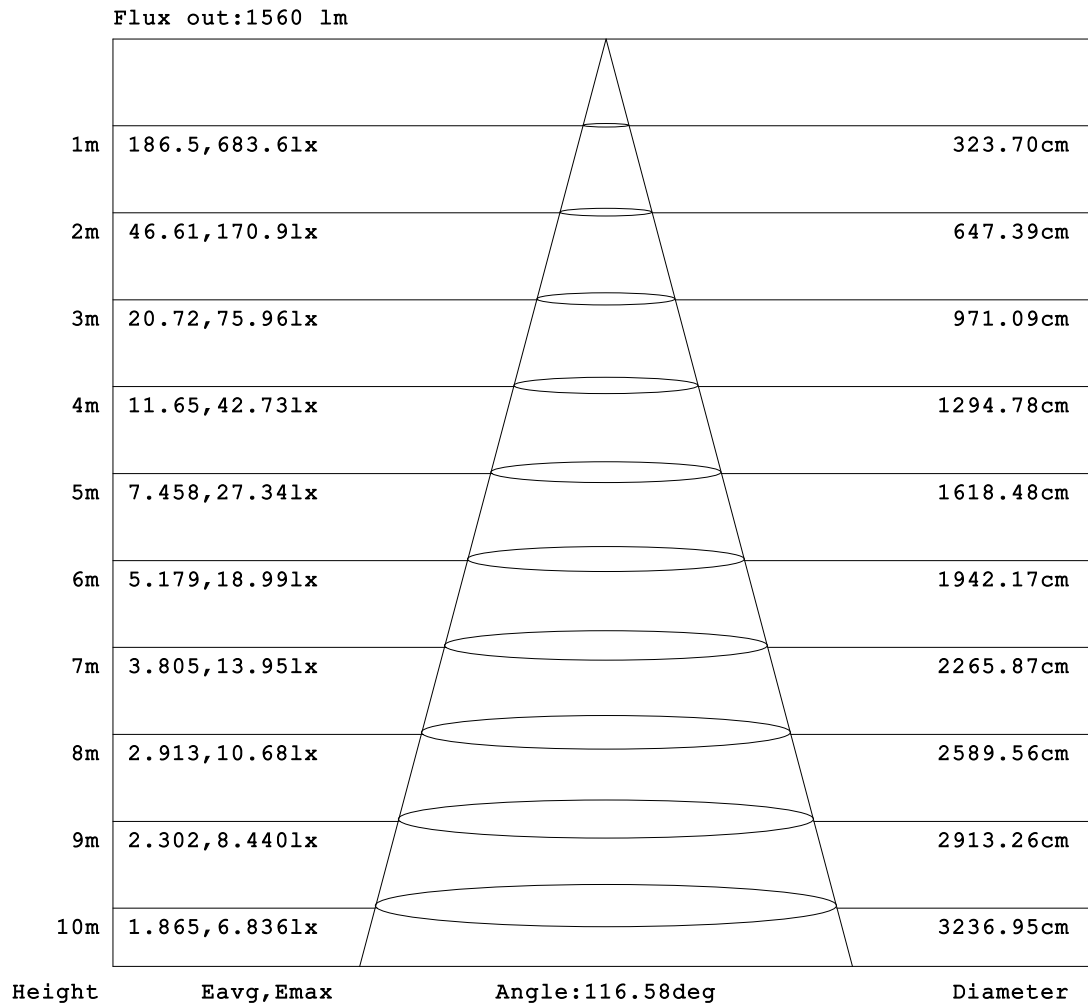


H(β) Range:-90 - 90DEG
H(β) Interval: 2.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:
Test Date:01 July 2022

V(B) Range:-80 - 80DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.456
Humidity:65.0%
Test Distance:6.265m [K=1.0000]
Remarks:

AAI Figure

NAME: 98Helios20SEN	TYPE: 98Helios20SEN	WEIGHT: 0.259
SPEC.:	DIM.: 0.132 x 0.145 x 0.105	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangular	Shielding Angle:



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

H(β) Range: -90 - 90DEG
 H(β) Interval: 2.0DEG
 Test Speed: HIGH
 Temperature: 25.3°C
 Operators:
 Test Date: 01 July 2022

V(B) Range: -80 - 80DEG
 V(B) Interval: 5.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.456
 Humidity: 65.0%
 Test Distance: 6.265m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: 98Helios20SEN	TYPE: 98Helios20SEN	WEIGHT: 0.259
SPEC.:	DIM.: 0.132 x 0.145 x 0.105	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangular	Shielding Angle:

Table--1

UNIT: cd

H (DEG) V (DEG)	-90	-86	-80	-76	-70	-66	-60	-56	-50	-46	-40	-36	-30	-26	-20	-16	-10	-6	0
-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
-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
-80	0.56	0.57	0.59	0.69	0.98	1.25	1.70	2.00	2.48	2.80	3.25	3.62	4.22	4.59	5.06	5.36	5.60	5.53	5.34
-75	0.58	0.58	0.79	1.16	2.94	6.50	13.5	19.4	28.2	33.5	44.1	49.8	55.1	58.2	62.1	64.2	66.2	66.7	66.3
-70	0.60	0.59	0.99	1.62	4.90	11.7	25.3	36.8	54.0	64.1	84.9	96.1	106	112	119	123	127	128	127
-65	0.62	0.63	1.37	3.84	18.4	33.8	62.7	81.4	118	140	165	180	197	207	218	224	229	230	229
-60	0.64	0.67	1.75	6.06	32.0	55.8	100	126	182	215	246	264	289	302	317	325	332	333	331
-55	0.66	0.73	2.85	13.4	48.1	79.4	131	168	224	256	290	311	339	353	371	381	389	390	389
-50	0.69	0.78	3.95	20.8	64.2	103	162	210	266	296	335	358	389	405	425	436	446	448	446
-45	0.71	0.83	7.32	29.6	82.7	124	198	244	302	333	373	398	430	447	468	479	489	491	490
-40	0.73	0.89	10.7	38.4	101	145	233	279	338	370	411	437	472	490	511	522	533	535	533
-35	0.75	0.93	14.0	45.8	116	170	260	306	365	398	443	470	506	524	547	558	567	569	569
-30	0.77	0.98	17.2	53.3	131	196	286	332	392	426	475	503	539	559	582	593	602	604	604
-25	0.79	1.03	20.4	61.1	146	213	302	352	413	448	498	527	565	584	606	617	627	629	628
-20	0.81	1.08	23.6	68.9	161	231	318	372	433	471	520	551	590	609	630	641	652	654	651
-15	0.82	1.11	25.5	72.2	165	241	331	383	445	483	534	565	603	622	644	655	665	666	665
-10	0.83	1.14	27.3	75.4	169	252	345	394	457	495	547	579	617	635	658	669	677	679	679
-5	0.84	1.21	29.2	77.0	175	257	346	397	460	499	551	582	620	639	660	671	681	683	681
0	0.85	1.29	31.1	78.6	180	261	348	400	464	503	554	585	624	643	663	674	684	686	683
5	0.87	1.25	29.6	77.1	175	257	345	395	459	498	549	579	618	637	657	668	679	681	678
10	0.88	1.20	28.1	75.6	170	252	342	390	454	493	544	573	612	632	652	662	673	676	673
15	0.89	1.17	26.2	72.7	166	241	330	378	441	479	529	558	597	616	637	646	657	661	658
20	0.90	1.13	24.3	69.8	162	231	318	367	428	466	515	544	581	601	621	631	642	645	642
25	0.91	1.09	21.1	63.1	147	214	300	348	408	443	491	519	555	575	596	606	615	618	617
30	0.92	1.04	17.9	56.4	132	198	283	328	388	420	467	495	529	548	571	581	588	591	592
35	0.93	1.04	13.8	48.1	118	172	259	302	360	391	435	462	495	513	535	545	554	556	556
40	0.94	1.05	9.57	39.8	105	145	235	275	333	362	403	429	461	479	499	509	519	521	519
45	0.94	1.02	7.29	30.9	85.4	126	202	244	298	328	366	391	421	438	458	468	477	479	478
50	0.95	0.99	5.01	22.0	66.1	106	168	214	264	293	329	353	380	397	417	426	435	436	436
55	0.95	0.98	3.58	15.2	50.2	81.7	133	167	219	247	280	299	324	339	356	365	373	375	374
60	0.94	0.96	2.14	8.41	34.3	57.5	98.2	121	174	201	230	245	268	281	295	303	311	313	311
65	0.94	0.94	1.61	4.97	18.6	35.3	63.1	80.8	117	135	162	176	192	202	213	218	224	226	225
70	0.94	0.92	1.08	1.52	2.88	13.1	28.0	40.4	60.4	70.1	94.2	107	116	122	130	134	138	139	139
75	0.94	0.92	1.03	1.32	2.12	7.35	15.0	21.5	31.9	36.9	49.2	55.5	60.6	63.9	68.0	70.0	72.0	72.4	72.4
80	0.94	0.91	0.97	1.11	1.37	1.57	2.10	2.62	3.30	3.66	4.16	4.50	5.00	5.32	5.72	5.93	6.18	6.26	6.37
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

H(β) Range:-90 - 90DEG
H(β) Interval: 2.0DEG
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Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.456
Humidity:65.0%
Test Distance:6.265m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: 98Helios20SEN	TYPE: 98Helios20SEN	WEIGHT: 0.259
SPEC.:	DIM.: 0.132 x 0.145 x 0.105	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangular	Shielding Angle:

Table--2

UNIT: cd

H(°) \ V(°)	4	10	14	20	24	30	34	40	44	50	54	60	64	70	74	80	84	90	
-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	
-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	
-80	5.16	4.73	4.39	3.93	3.63	3.19	2.92	2.50	2.22	1.80	1.53	1.19	1.01	0.81	0.72	0.71	0.76	0.65	
-75	65.5	63.1	60.8	56.4	53.1	47.4	43.8	35.5	27.1	18.3	14.2	6.91	3.87	1.50	1.07	0.78	0.74	0.65	
-70	126	122	117	109	103	91.7	84.6	68.6	51.9	34.7	26.9	12.6	6.74	2.19	1.41	0.86	0.72	0.66	
-65	227	219	212	199	188	170	157	135	116	87.0	63.8	37.4	24.9	8.68	3.04	1.06	0.77	0.67	
-60	328	317	307	288	274	248	229	201	180	139	101	62.2	43.0	15.2	4.67	1.26	0.81	0.68	
-55	386	376	365	346	331	303	283	250	227	183	150	93.2	67.7	27.2	10.7	1.59	0.88	0.69	
-50	444	434	423	404	388	358	336	299	274	227	200	124	92.5	39.2	16.8	1.93	0.96	0.70	
-45	487	477	466	445	429	397	373	334	307	260	227	158	111	55.5	24.5	2.78	1.04	0.72	
-40	530	520	508	486	469	437	411	369	340	292	255	192	130	71.9	32.3	3.64	1.12	0.73	
-35	565	554	542	521	503	469	443	400	369	318	281	217	157	85.4	42.3	5.64	1.22	0.75	
-30	600	588	576	556	537	501	475	431	397	344	307	241	185	98.9	52.4	7.64	1.32	0.76	
-25	624	613	600	579	560	525	497	452	417	363	324	254	203	107	59.4	8.97	1.39	0.78	
-20	648	638	625	602	584	549	520	472	438	381	341	267	221	115	66.4	10.3	1.46	0.80	
-15	662	651	638	616	598	562	533	486	451	393	352	281	231	122	68.5	12.5	1.52	0.81	
-10	676	664	651	630	612	575	547	499	464	404	364	294	242	128	70.7	14.7	1.59	0.82	
-5	678	667	654	633	615	579	550	502	467	408	367	297	244	129	71.9	15.1	1.62	0.84	
0	680	671	658	635	618	583	553	505	470	411	369	299	246	131	73.1	15.5	1.66	0.86	
5	674	665	653	630	611	578	549	500	465	407	367	296	243	129	71.8	15.1	1.65	0.87	
10	669	659	648	624	605	573	544	495	460	404	364	293	241	128	70.6	14.7	1.65	0.88	
15	653	643	633	609	590	558	530	481	447	391	352	280	230	122	66.4	12.5	1.60	0.90	
20	638	628	618	594	575	542	515	467	433	379	340	266	219	115	62.2	10.4	1.56	0.91	
25	613	602	591	569	550	517	491	446	412	360	322	253	201	107	57.3	8.68	1.50	0.93	
30	587	575	565	544	526	493	467	424	391	341	303	239	184	98.3	52.4	6.99	1.44	0.95	
35	552	541	530	509	492	459	435	393	363	314	277	214	156	84.9	42.4	5.24	1.36	0.96	
40	516	506	495	474	458	426	402	362	334	288	250	188	128	71.4	32.5	3.49	1.28	0.98	
45	475	464	454	434	418	387	365	328	301	255	223	154	109	54.7	24.7	2.81	1.22	0.99	
50	434	423	412	394	378	348	328	293	268	223	195	120	90.3	38.1	16.9	2.13	1.15	1.00	
55	371	362	352	335	321	295	276	246	223	180	148	91.2	66.4	26.9	10.9	1.81	1.09	1.02	
60	308	300	293	276	264	242	225	199	178	138	101	61.9	42.5	15.6	4.96	1.49	1.03	1.03	
65	223	216	210	198	188	172	160	136	118	88.6	65.9	38.5	25.4	9.12	3.34	1.31	1.01	1.04	
70	137	132	128	119	112	101	94.1	72.6	57.9	39.0	30.5	15.1	8.35	2.60	1.72	1.13	0.98	1.05	
75	71.6	69.1	66.9	62.3	58.7	52.9	49.1	38.1	30.5	20.8	16.3	8.38	4.89	1.90	1.39	1.06	1.00	1.05	
80	6.33	6.07	5.89	5.47	5.12	4.52	4.10	3.47	3.06	2.48	2.13	1.67	1.44	1.20	1.07	0.99	1.01	1.06	
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	
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	

H(β) Range:-90 - 90DEG

H(β) Interval: 2.0DEG

Test Speed: HIGH

Temperature:25.3°C

Operators:

Test Date:01 July 2022

V(B) Range:-80 - 80DEG

V(B) Interval: 5.0DEG

Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.456

Humidity:65.0%

Test Distance:6.265m [K=1.0000]

Remarks: