



Report Number: REP-112024-04

LM-79-08 Luminaire Photometric Report

Device Under Test

Finelite Inc.
HP3-P-ID-4'-V-V-835-WSO-F
HP3-P-ID Series

Report Date

11/20/2024

Goniophotometric Examination

KPL2008-102
8/22/2024

Examined By:
Laura Robertson

Approved By:
Joe Guarino

Spectroradiometric Examination

CCT5635
08-19-2024

Examined By:
Laura Robertson

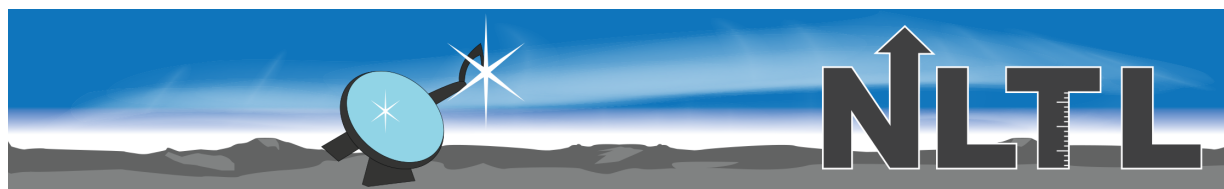
Approved By:
Joe Guarino

Northern Lights Testing Laboratories certifies that the attached reports have been independently produced in accordance with IESNA LM-79-08, Approved Method: Electric and Photometric Measurement of Solid-State Lighting Products. Photometric measurements are taken using an Integrating Sphere system and Type C goniophotometer for measuring total luminous flux, luminous intensity distribution, and color spatial uniformity. Products tested are operated in the intended orientation in application. All test equipment is calibrated regularly with standards traceable to NIST, and in accordance with ISO17025-2005 procedures. Northern Lights Testing Laboratories is an Accredited Organization, accredited by the International Accreditation Service, Inc. (IAS) to ISO/IEC 17025-2005. IAS is an ILAC-MRA Signatory Testing, Calibration, Inspection. Northern Lights Testing Laboratories is an Approved Lab Partner and is on the LED Lighting Facts Approved Labs List.



IAS Accreditation No. TL-479





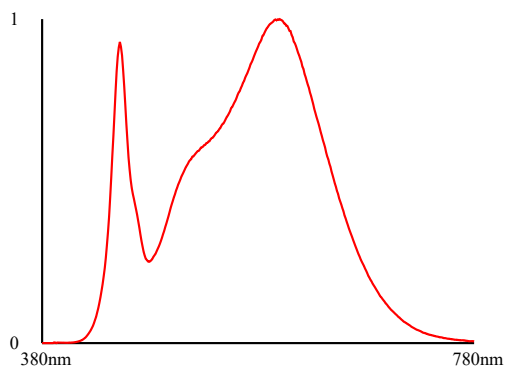
NORTHERN LIGHTS TESTING LABORATORIES

Spectral Results

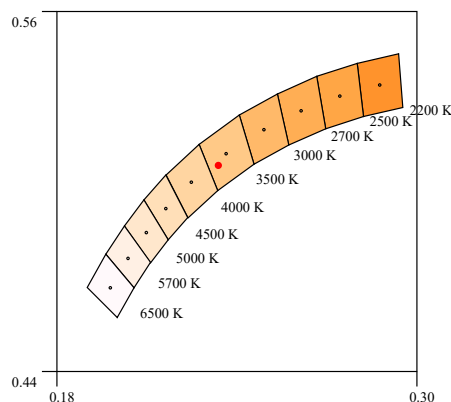
CCT: 3591 K
xy Coordinates: 0.3998 , 0.3867
u'v' Coordinates: 0.2338, 0.5087
Delta u'v': -0.00054

Luminous Flux: 9117.67 lm
Radiant Flux: 20.35361 W
Electrical Power: 68.78 W
Efficacy: 132.6 lm/W
Melanopic Flux: 5781 mel lm
Melanopic Ratio: 0.63

Spectral Power Distribution



CIE u'v' (1976)



Color Rendering Index

Ra	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
83	82	91	96	82	82	88	84	61	6	80	82	66	85	98	75



NORTHERN LIGHTS TESTING LABORATORIES

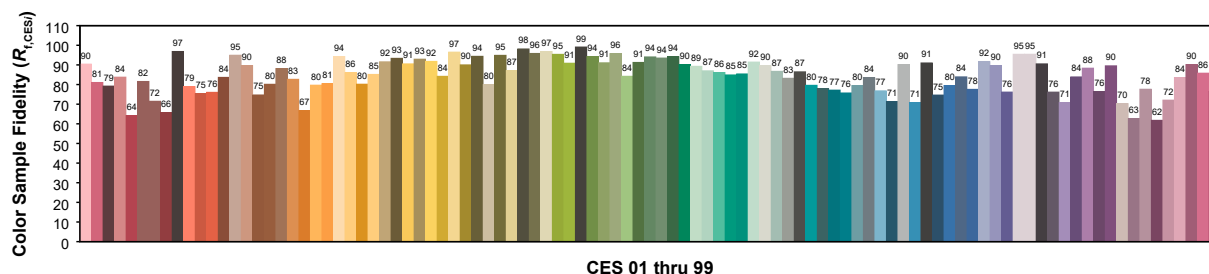
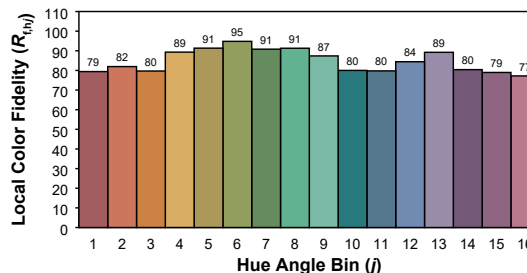
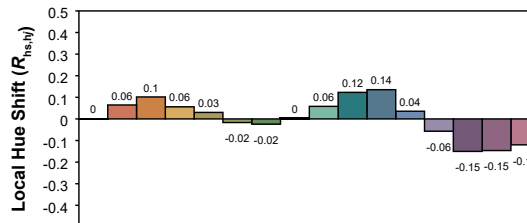
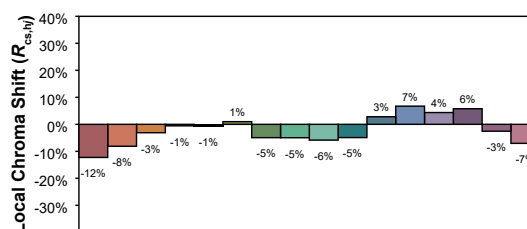
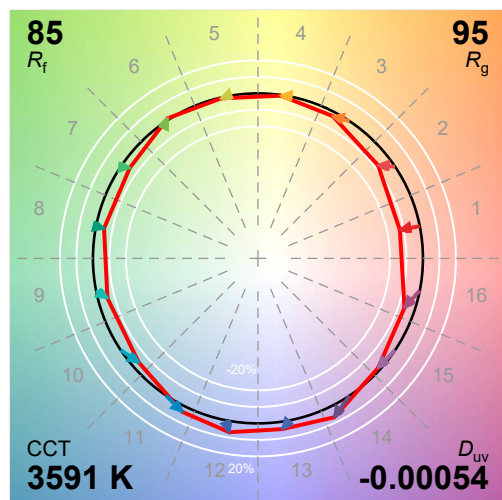
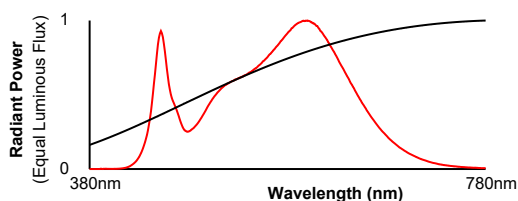
IES TM-30-18 Color Rendition Report

Source: HP3-P-ID-4'-V-V-835-WSO-F

Date: 08-19-2024

Manufacturer: Finelite, Inc.

Model: HP3 (REF# 23050194)



CES 01 thru 99

x: 0.3998

y: 0.3867

u': 0.2338

v': 0.5087

CIE 13.3 1995

CRI Ra: 83

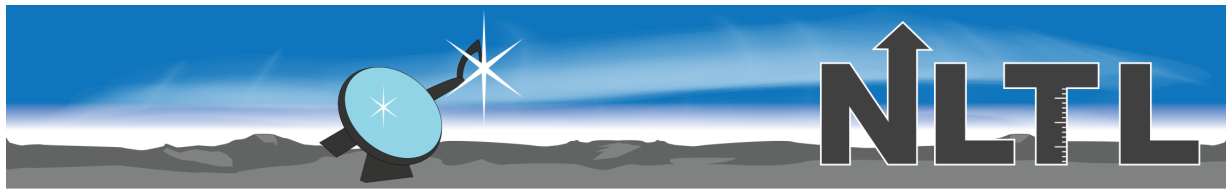
CRI R9: 6

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NORTHERN LIGHTS TESTING LABORATORIES

Performance Summary

Input

Watts	68.78 W
Number of Lamps	320
Lumens per Lamp	N/A
Total Lamp Lumens	N/A

Output

Output Lumens	9117.67 lm
Efficiency	N/A %
Efficacy	132.56 lm/W

Luminous Dimensions

Length	4 ft
Width	0.25 ft
Height	0 ft

Roadway CU

Mounting Heights	1	2	4	6	8	10
House Side CU	0.16	0.19	0.20	0.21	0.21	0.21
Street Side CU	0.16	0.19	0.20	0.21	0.21	0.21

Spacing Criterion

Two luminaires, 0°-180° plane	1.17
Two luminaires, 90°-270° plane	1.11
Four luminaires, diagonal	1.24

Full Beam Angle

0°-180° plane	98.33°
90°-270° plane	91.48°

Roadway Summary

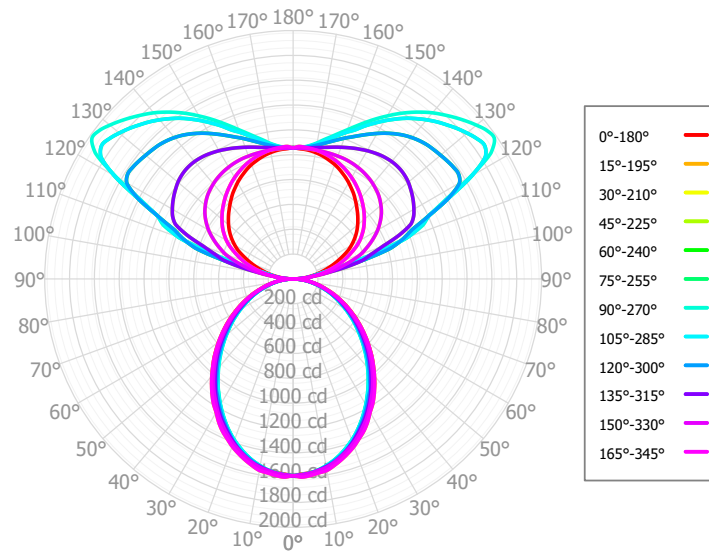
IESNA lateral classification	Type I
IESNA vertical classification	Short
Cutoff classification	Noncutoff
IESNA TM-15-11 BUG Rating	B2 U5 G1
Maximum Candela	1976.81 cd 90° horizontal 125° vertical
Street side total	20.8%
House side total	20.8%

Luminaire Luminance

	0.00°	45.00°	90.00°
0.00°	17125	17125	17125
45.00°	13736	13109	12472
55.00°	12497	11774	11171
65.00°	11286	10606	10032
75.00°	10070	9383	9054
85.00°	9052	8495	7959

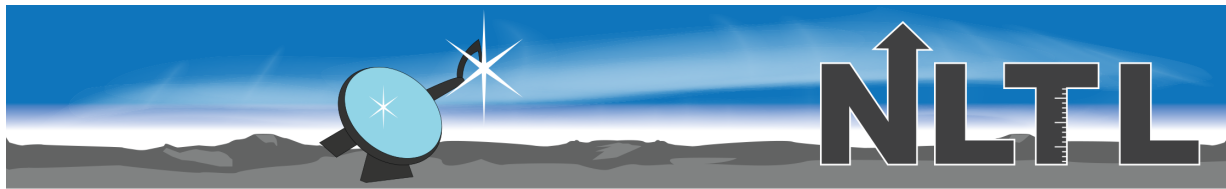


Candela Polar Plot



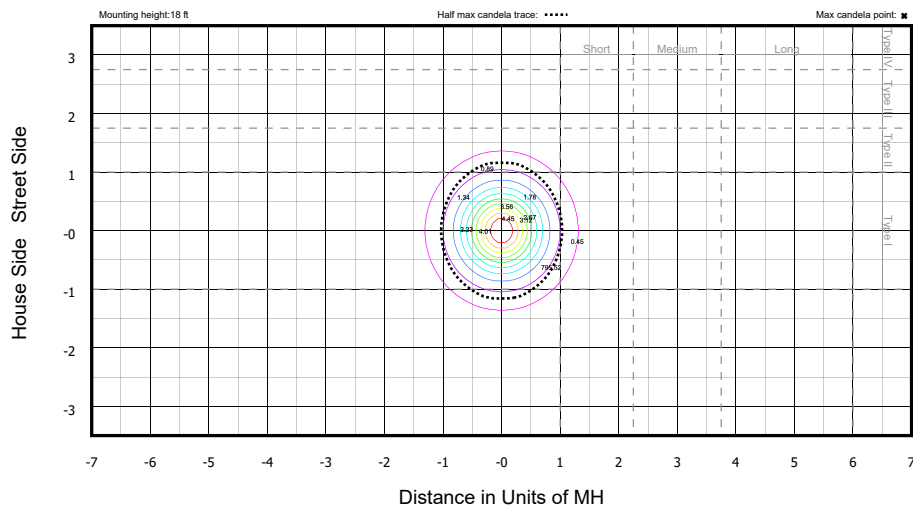
Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 20.00°	568	6%	60.00° - 80.00°	652	7%
0.00° - 30.00°	1169	13%	70.00° - 80.00°	241	3%
0.00° - 40.00°	1852	20%	80.00° - 90.00°	77	1%
0.00° - 60.00°	3073	34%	90.00° - 110.00°	595	7%
0.00° - 80.00°	3724	41%	90.00° - 120.00°	1511	17%
0.00° - 90.00°	3802	42%	90.00° - 130.00°	2612	29%
10.00° - 90.00°	3650	40%	90.00° - 150.00°	4360	48%
20.00° - 40.00°	1284	14%	90.00° - 180.00°	5316	58%
20.00° - 50.00°	1945	21%	110.00° - 180.00°	4721	52%
40.00° - 70.00°	1632	18%	0.00° - 180.00°	9118	100%



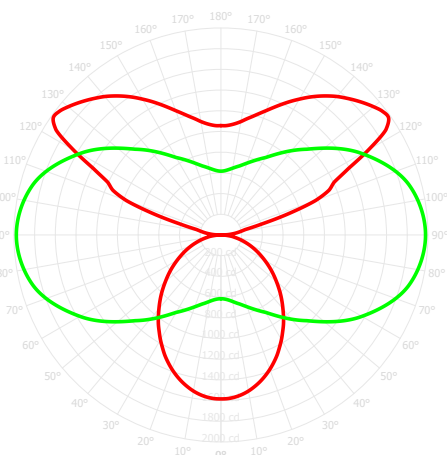
NORTHERN LIGHTS TESTING LABORATORIES

Iso-Illuminance

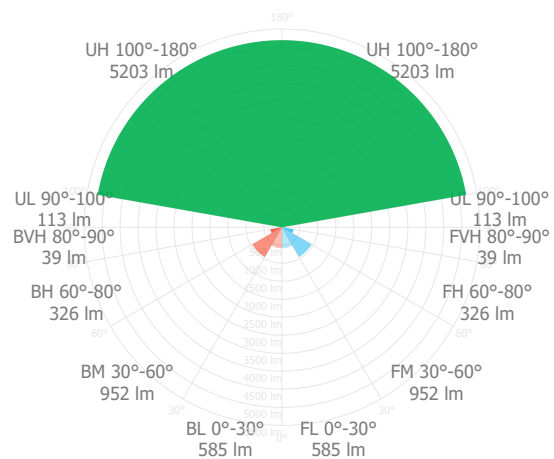


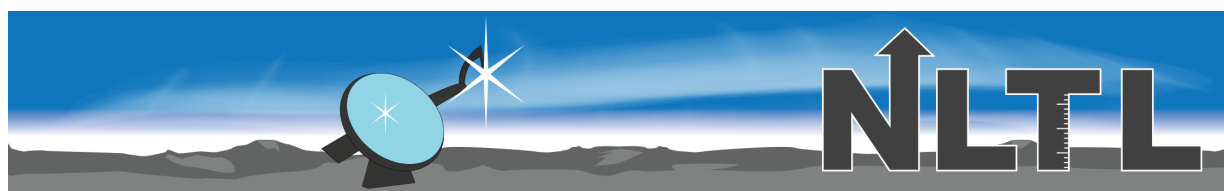
Peak Intensity Plane and Cone

Maximum Candela = 1976.81 cd
90° horizontal, 125° vertical



IES TM-15-11 LCS Plot





NORTHERN LIGHTS TESTING LABORATORIES

Candela Table

	0.00°	15.00°	30.00°	45.00°	60.00°	75.00°	90.00°	105.00°	120.00°	135.00°	150.00°	165.00°	180.00°	195.00°	210.00°	225.00°	240
0.00°	1584.25	1584.25	1584.25	1584.25	1584.25	1584.25	1584.25	1584.25	1584.25	1584.25	1584.25	1584.25	1584.25	1584.25	1584.25	1584.25	158
2.50°	1573.41	1597.04	1577.65	1578.53	1579.91	1577.60	1582.22	1577.60	1579.91	1578.53	1577.65	1597.04	1573.41	1597.04	1577.65	1578.53	157
5.00°	1565.82	1589.00	1569.56	1569.84	1569.94	1567.69	1572.09	1567.69	1569.94	1569.84	1569.56	1589.00	1565.82	1589.00	1569.56	1569.84	156
7.50°	1554.25	1575.56	1555.79	1554.53	1554.20	1551.16	1555.02	1551.16	1554.20	1554.53	1555.79	1575.56	1554.25	1575.56	1555.79	1554.53	155
10.00°	1543.78	1565.42	1540.54	1534.76	1532.38	1527.33	1531.34	1527.33	1532.38	1534.76	1540.54	1565.42	1543.78	1565.42	1540.54	1534.76	153
12.50°	1514.16	1537.24	1514.93	1514.76	1504.09	1498.74	1500.73	1498.74	1504.09	1514.76	1514.93	1537.24	1514.16	1537.24	1514.93	1514.76	150
15.00°	1485.64	1506.02	1482.49	1482.22	1473.47	1464.33	1465.82	1464.33	1473.47	1482.22	1482.49	1506.02	1485.64	1506.02	1482.49	1482.22	147
17.50°	1453.04	1471.60	1447.25	1443.02	1439.00	1423.96	1425.73	1423.96	1439.00	1443.02	1447.25	1471.60	1453.04	1471.60	1447.25	1443.02	143
20.00°	1417.25	1434.43	1409.92	1399.96	1395.39	1381.85	1381.67	1381.85	1395.39	1399.96	1409.92	1434.43	1417.25	1434.43	1409.92	1399.96	139
22.50°	1377.93	1390.54	1367.36	1353.54	1344.45	1334.87	1333.33	1334.87	1344.45	1353.54	1367.36	1390.54	1377.93	1390.54	1367.36	1353.54	134
25.00°	1340.38	1349.47	1320.94	1306.07	1292.03	1282.18	1282.23	1282.18	1292.03	1306.07	1320.94	1349.47	1340.38	1349.47	1320.94	1306.07	129
27.50°	1285.10	1298.25	1273.09	1257.34	1240.77	1229.21	1224.85	1229.21	1240.77	1257.34	1273.09	1298.25	1285.10	1298.25	1273.09	1257.34	124
30.00°	1235.98	1239.67	1219.52	1203.76	1184.54	1172.37	1168.79	1172.37	1184.54	1203.76	1219.52	1239.67	1235.98	1239.67	1219.52	1203.76	118
32.50°	1182.57	1192.70	1162.74	1150.13	1128.21	1114.94	1109.77	1114.94	1128.21	1150.13	1162.74	1192.70	1182.57	1192.70	1162.74	1150.13	112
35.00°	1130.47	1137.35	1110.10	1090.33	1079.87	1055.20	1053.49	1055.20	1079.87	1090.33	1110.10	1137.35	1130.47	1137.35	1110.10	1090.33	107
37.50°	1075.85	1078.11	1052.72	1032.13	1010.98	996.67	992.59	996.67	1010.98	1032.13	1052.72	1078.11	1075.85	1078.11	1052.72	1032.13	101
40.00°	1014.51	1018.69	993.64	972.11	951.90	938.13	932.02	938.13	951.90	972.11	993.64	1018.69	1014.51	1018.69	993.64	972.11	951
42.50°	956.80	957.96	934.00	914.79	893.59	879.82	873.65	879.82	893.59	914.79	934.00	957.96	956.80	957.96	934.00	914.79	893
45.00°	898.54	900.41	875.19	857.52	833.57	820.13	815.83	820.13	833.57	857.52	875.19	900.41	898.54	900.41	875.19	857.52	833
47.50°	838.63	838.63	817.05	797.83	775.14	761.49	757.36	761.49	775.14	797.83	817.05	838.63	838.63	838.63	817.05	797.83	775
50.00°	778.39	780.37	756.42	738.41	716.17	704.93	699.98	704.93	716.17	738.41	756.42	780.37	778.39	780.37	756.42	738.41	716
52.50°	718.70	720.85	698.16	681.09	661.60	648.88	645.80	648.88	661.60	681.09	698.16	720.85	718.70	720.85	698.16	681.09	661
55.00°	663.09	662.04	642.88	624.76	608.19	598.94	592.71	598.94	608.19	624.76	642.88	662.04	663.09	662.04	642.88	624.76	608
57.50°	606.81	602.35	585.00	570.36	554.33	543.32	539.52	543.32	554.33	570.36	585.00	602.35	606.81	602.35	585.00	570.36	554
60.00°	549.54	545.74	531.76	514.96	501.09	492.06	487.87	492.06	501.09	514.96	531.76	545.74	549.54	545.74	531.76	514.96	501
62.50°	495.36	491.84	478.29	462.23	446.46	440.68	438.35	440.68	446.46	462.23	478.29	491.84	495.36	491.84	478.29	462.23	446
65.00°	441.22	437.46	426.82	414.64	400.19	395.43	392.22	395.43	400.19	414.64	426.82	437.46	441.22	437.46	426.82	414.64	400
67.50°	387.85	385.65	375.89	363.41	353.12	348.49	346.33	348.49	353.12	363.41	375.89	385.65	387.85	385.65	375.89	363.41	353
70.00°	339.02	335.49	324.60	316.70	308.97	303.11	301.84	303.11	308.97	316.70	324.60	335.49	339.02	335.49	324.60	316.70	308
72.50°	287.58	278.97	278.11	269.64	262.42	258.54	257.78	258.54	262.42	269.64	278.11	278.97	287.58	278.97	278.11	269.64	262
75.00°	241.12	238.85	232.67	224.65	221.72	216.39	216.78	216.39	221.72	224.65	232.67	238.85	241.12	238.85	232.67	224.65	221
77.50°	197.90	194.54	188.73	182.85	179.69	175.84	176.12	175.84	179.69	182.85	188.73	194.54	197.90	194.54	188.73	182.85	179
80.00°	154.31	151.70	146.87	144.25	140.32	138.31	137.14	138.31	140.32	144.25	146.87	151.70	154.31	151.70	146.87	144.25	140
82.50°	112.64	111.38	109.44	106.80	105.16	103.80	107.35	103.80	105.16	106.80	109.44	111.38	112.64	111.38	109.44	106.80	105
85.00°	72.98	71.69	69.13	68.49	67.32	65.97	64.17	65.97	67.32	68.49	69.13	71.69	72.98	71.69	69.13	68.49	67

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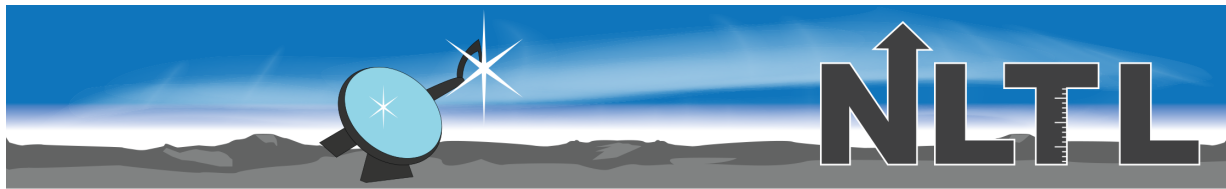
Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

	pfc	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	0.00%
	pcc	80.00%	80.00%	80.00%	70.00%	70.00%	70.00%	50.00%	50.00%	30.00%	30.00%	30.00%	10.00%	10.00%	10.00%	0.00%
	pw	70.00%	50.00%	30.00%	70.00%	50.00%	30.00%	50.00%	30.00%	50.00%	30.00%	0.00%	50.00%	30.00%	10.00%	0.00%
	0.00	9589	9589	9589	8747	8747	8747	7177	7177	5741	5741	5741	4422	4422	4422	3802
	1.00	8749	8359	8010	7968	7639	7342	6290	6082	5051	4910	4718	3909	3820	3736	3206
	2.00	7972	7309	6762	7250	6688	6218	5521	5183	4445	4210	3910	3449	3295	3157	2698
	3.00	7276	6430	5775	6612	5891	5325	4876	4461	3936	3643	3287	3065	2867	2698	2296
	4.00	6658	5693	4986	6050	5223	4607	4336	3877	3512	3182	2800	2746	2519	2332	1979
RCR	5.00	6112	5073	4347	5555	4661	4024	3881	3402	3156	2805	2414	2478	2234	2039	1727
	6.00	5629	4548	3822	5120	4185	3546	3497	3009	2854	2494	2104	2252	1998	1800	1523
	7.00	5201	4101	3388	4735	3780	3148	3169	2683	2597	2234	1851	2060	1801	1603	1356
	8.00	4823	3720	3025	4396	3434	2816	2888	2409	2376	2015	1643	1894	1634	1439	1217
	9.00	4489	3392	2720	4095	3136	2536	2646	2177	2185	1829	1470	1750	1491	1301	1101
	10.00	4191	3109	2461	3828	2878	2298	2436	1979	2019	1670	1325	1625	1369	1184	1003

Cone of Light

Mounting Height	Beam Center Light Level	0°-180° Beam Width	90°-270° Beam Width
8 ft	25 fc	19 ft	16 ft
10 ft	16 fc	23 ft	21 ft
12 ft	11 fc	28 ft	25 ft
14 ft	8 fc	32 ft	29 ft
20 ft	4 fc	46 ft	41 ft
25 ft	3 fc	58 ft	51 ft
30 ft	2 fc	69 ft	62 ft



NORTHERN LIGHTS TESTING LABORATORIES

Integrating Sphere Information:

Sphere Equipment:

SL-300 Integrating Sphere

Yokogawa WT210 - Power Meter

Thermo Recorder TR-71W

Chroma 6408, AC power source

Calibration Due: 8/23/2024

Sphere Test:

Output test: HP3-P-ID-4'-V-V-835-WSO-F

24.3°C, 42RH%

276.99 Vac, 68.78W

Stable per LM-79 Standard

Spectrum Range: 380-780 nm

Scan Step: 1 nm

Test Info

Manufacturer - Finlite, Inc.

Model: HP3-P-ID-4'-V-V-835-WSO-F

Sample: HP3-P-ID-4'-V-V-835-WSO-F

Test Info

Model: HP3 (REF# 23050194)

Sample: HP3-P-ID-4'-V-V-835-WSO-F

Manufacturer: Finelite, Inc.

Test Date: 08-19-2024

Temperature: 24.3° C

Humidity: 42%

Spectrum Range: 380 - 780 nm

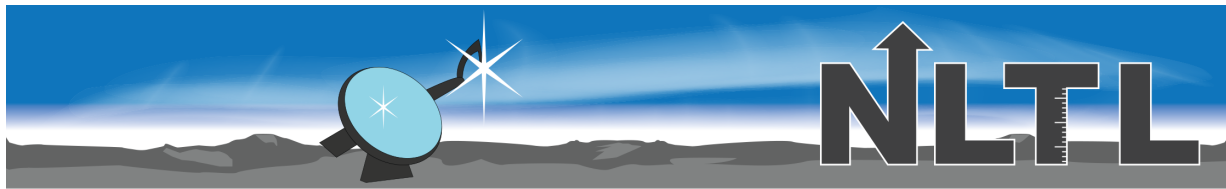
Scan Step: 1 nm

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NORTHERN LIGHTS TESTING LABORATORIES

Goniometry Information:

Goniometer Equipment:

GMS2000 Type C Goniophotometer

Yokogawa WT210 - Power meter

(x3) J Type Thermocouples/Agilent 34970A data acquisition unit

GW Instek APS-7100E - AC power source

Calibration Due: 8/31/2024

Goniometer Test:

Distribution Test: HP3-P-ID-4'-V-V-835-WSO-F

24.3 °C, 42RH%

276.99 Vac, 68.78W

Stable per LM-79 Standard