



Report Number: REP-112524-01

LM-79-08 Luminaire Photometric Report

Device Under Test

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

Report Date

11/25/2024

Goniophotometric Examination

KPL2008-50
1/18/2024

Examined By:
Laura Robertson

Approved By:
Joe Guarino

Spectroradiometric Examination

CCT5792
11-22-2024

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



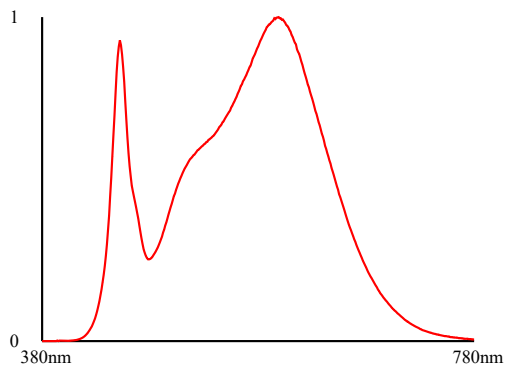


Spectral Results

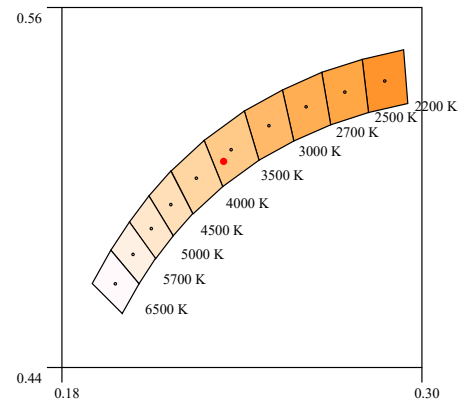
CCT: 3588 K
xy Coordinates: 0.3999 , 0.3865
u'v' Coordinates: 0.2339, 0.5087
Delta u'v': -0.00065

Luminous Flux: 9041.68 lm
Radiant Flux: 20.04015 W
Electrical Power: 68.68 W
Efficacy: 131.7 lm/W
Melanopic Flux: 5736 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
84	82	92	96	82	82	89	84	61	7	80	82	67	85	98	75



NORTHERN LIGHTS TESTING LABORATORIES

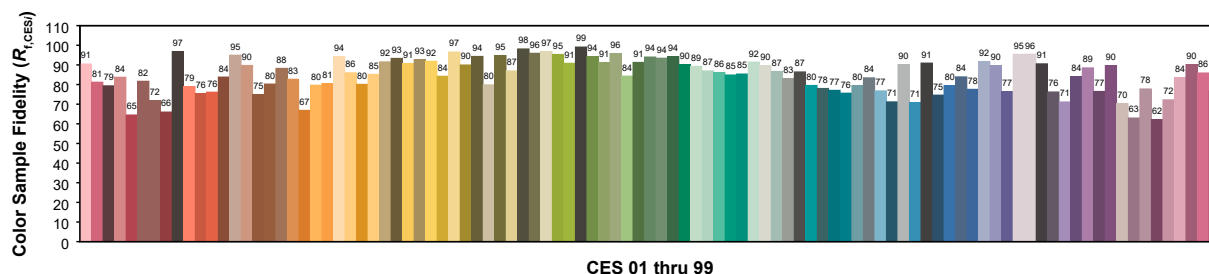
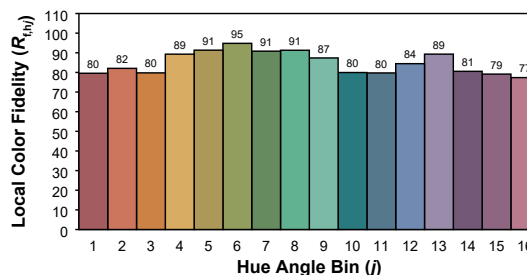
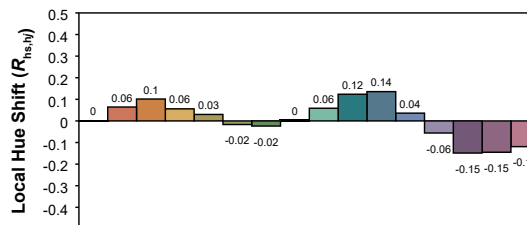
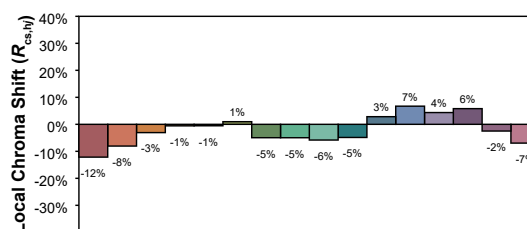
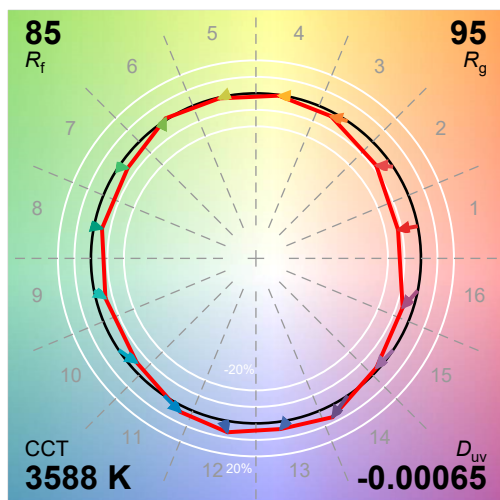
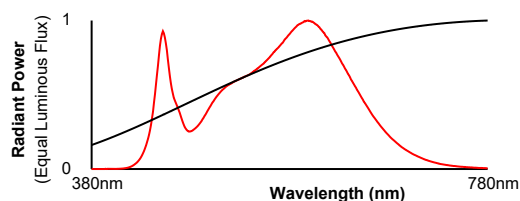
IES TM-30-18 Color Rendition Report

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

Date: 11-22-2024

Manufacturer: Finelite, Inc.

Model: HP3 (REF#)



CES 01 thru 99

x: 0.3999

y: 0.3865

u': 0.2339

v': 0.5087

CIE 13.3 1995

CRI Ra: 84

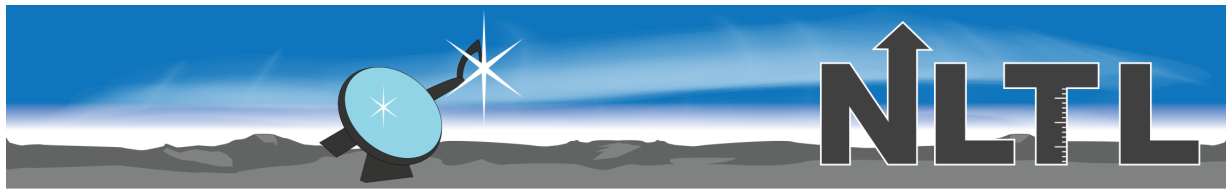
CRI R9: 7

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P: 262-891-9700

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NORTHERN LIGHTS TESTING LABORATORIES

Performance Summary

Input

Watts	68.68 W
Number of Lamps	320
Lumens per Lamp	N/A
Total Lamp Lumens	N/A

Output

Output Lumens	9041.68 lm
Efficiency	N/A %
Efficacy	131.65 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	0.17	0.21	0.23	0.23	0.23	0.23
Street Side CU	0.17	0.21	0.23	0.23	0.23	0.23

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

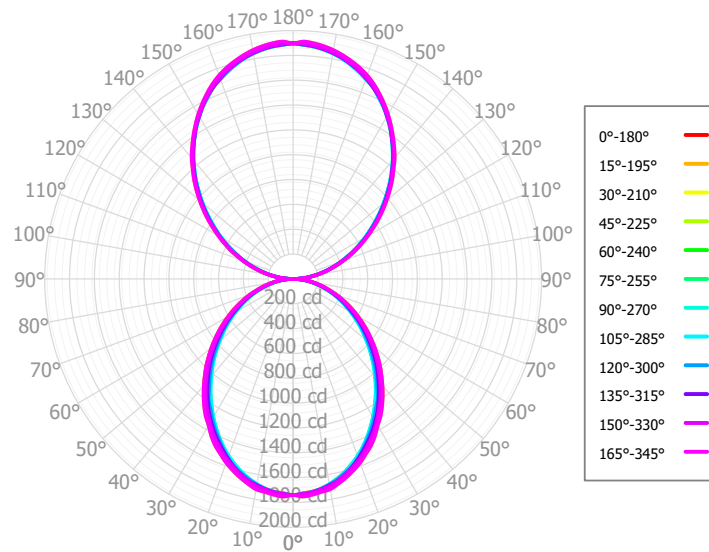
IESNA lateral classification	Type II
IESNA vertical classification	Undefined (Very Short)
Cutoff classification	Noncutoff
IESNA TM-15-11 BUG Rating	B2 U5 G1
Maximum Candela	1912.94 cd 15° horizontal 177.5° vertical
Street side total	23.1%
House side total	23.1%

Luminaire Luminance

	0.00°	45.00°	90.00°
0.00°	18809	18809	18809
45.00°	15087	14398	13698
55.00°	13725	12932	12268
65.00°	12395	11648	11018
75.00°	11060	10305	9944
85.00°	9942	9330	8742

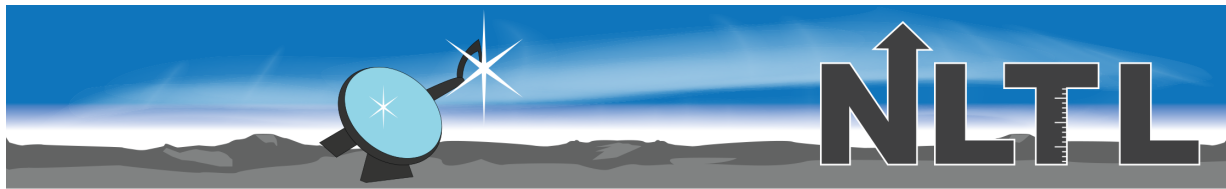


Candela Polar Plot



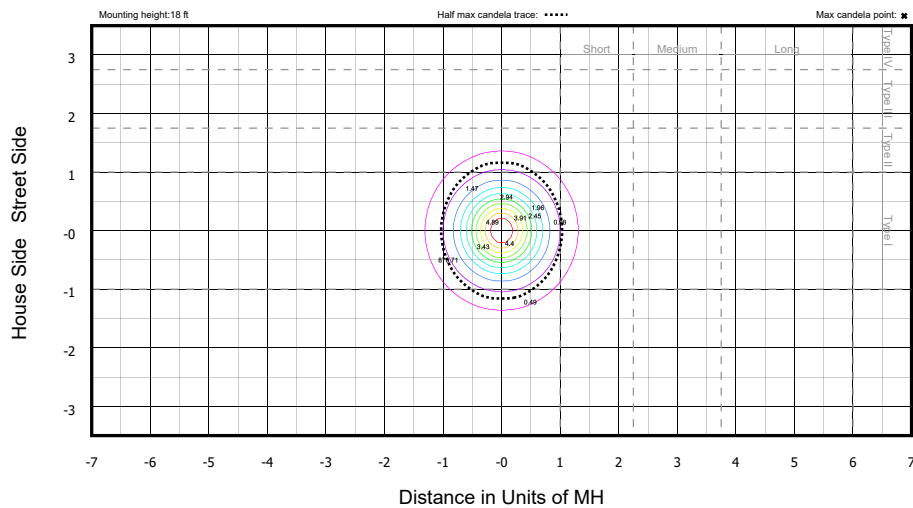
Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 20.00°	623	7%	60.00° - 80.00°	716	8%
0.00° - 30.00°	1284	14%	70.00° - 80.00°	264	3%
0.00° - 40.00°	2034	22%	80.00° - 90.00°	85	1%
0.00° - 60.00°	3375	37%	90.00° - 110.00°	428	5%
0.00° - 80.00°	4091	45%	90.00° - 120.00°	972	11%
0.00° - 90.00°	4175	46%	90.00° - 130.00°	1706	19%
10.00° - 90.00°	4009	44%	90.00° - 150.00°	3430	38%
20.00° - 40.00°	1410	16%	90.00° - 180.00°	4867	54%
20.00° - 50.00°	2136	24%	110.00° - 180.00°	4438	49%
40.00° - 70.00°	1792	20%	0.00° - 180.00°	9042	100%



NORTHERN LIGHTS TESTING LABORATORIES

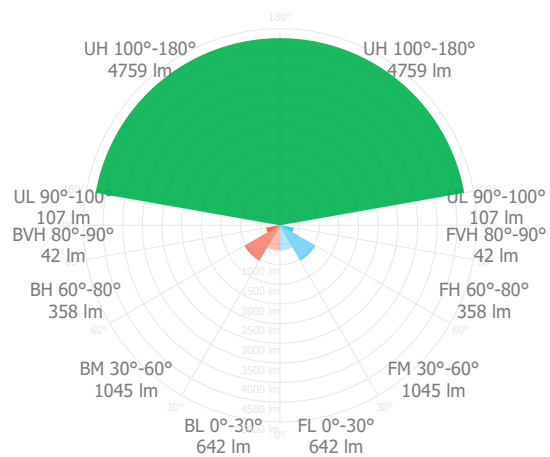
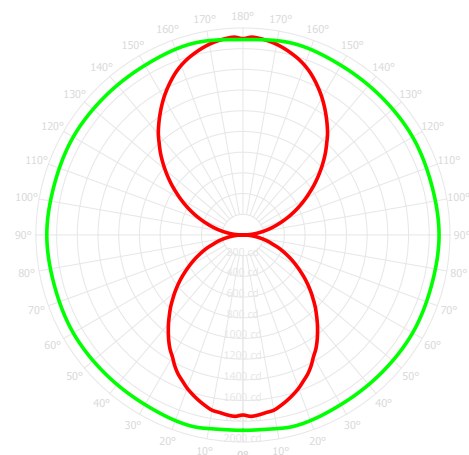
Iso-Illuminance

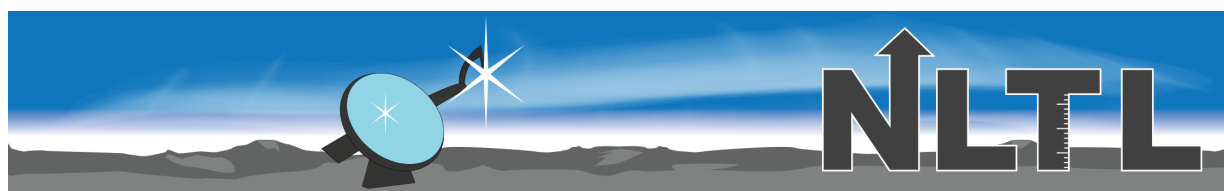


Peak Intensity Plane and Cone

Maximum Candela = 1912.94 cd
15° horizontal, 177.5° vertical

IES TM-15-11 LCS Plot





NORTHERN LIGHTS TESTING LABORATORIES

Candela Table

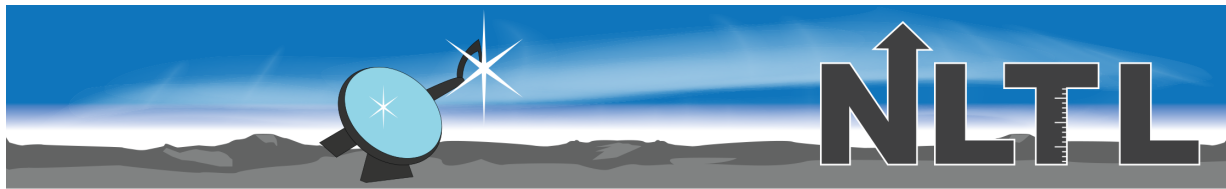
	0.00°	15.00°	30.00°	45.00°	60.00°	75.00°	90.00°	105.00°	120.00°	135.00°	150.00°	165.00°	180.00°	195.00°	210.00°	225.00°	240
0.00°	1739.96	1739.96	1739.96	1739.96	1739.96	1739.96	1739.96	1739.96	1739.96	1739.96	1739.96	1739.96	1739.96	1739.96	1739.96	1739.96	1739.96
2.50°	1728.06	1754.01	1732.72	1733.68	1735.20	1732.66	1737.74	1732.66	1735.20	1733.68	1732.72	1754.01	1728.06	1754.01	1732.72	1733.68	1735.20
5.00°	1719.72	1745.18	1723.83	1724.13	1724.25	1721.78	1726.61	1721.78	1724.25	1724.13	1723.83	1745.18	1719.72	1745.18	1723.83	1724.13	1726.61
7.50°	1707.02	1730.42	1708.70	1707.32	1706.96	1703.63	1707.86	1703.63	1706.96	1707.32	1708.70	1730.42	1707.02	1730.42	1708.70	1707.32	1706.96
10.00°	1695.52	1719.29	1691.96	1685.61	1683.00	1677.45	1681.86	1677.45	1683.00	1685.61	1691.96	1719.29	1695.52	1719.29	1691.96	1685.61	1683.00
12.50°	1662.99	1688.33	1663.83	1663.65	1651.93	1646.06	1648.23	1646.06	1651.93	1663.65	1663.83	1688.33	1662.99	1688.33	1663.83	1663.65	1651.93
15.00°	1631.66	1654.04	1628.21	1627.91	1618.30	1608.26	1609.89	1608.26	1618.30	1627.91	1628.21	1654.04	1631.66	1654.04	1628.21	1627.91	1618.30
17.50°	1595.86	1616.24	1589.51	1584.85	1580.44	1563.92	1565.86	1563.92	1580.44	1584.85	1589.51	1616.24	1595.86	1616.24	1589.51	1584.85	1580.44
20.00°	1556.55	1575.42	1548.51	1537.56	1532.55	1517.67	1517.48	1517.67	1532.55	1537.56	1548.51	1575.42	1556.55	1575.42	1548.51	1537.56	1532.55
22.50°	1513.36	1527.22	1501.76	1486.58	1476.60	1466.07	1464.38	1466.07	1476.60	1486.58	1501.76	1527.22	1513.36	1527.22	1501.76	1486.58	1476.60
25.00°	1472.12	1482.11	1450.78	1434.44	1419.03	1408.20	1408.26	1408.20	1419.03	1434.44	1450.78	1482.11	1472.12	1482.11	1450.78	1434.44	1419.03
27.50°	1411.41	1425.86	1398.22	1380.92	1362.73	1350.03	1345.24	1350.03	1362.73	1380.92	1398.22	1425.86	1411.41	1425.86	1398.22	1380.92	1362.73
30.00°	1357.46	1361.51	1339.38	1322.08	1300.97	1287.61	1283.67	1287.61	1300.97	1322.08	1339.38	1361.51	1357.46	1361.51	1339.38	1322.08	1300.97
32.50°	1298.80	1309.93	1277.02	1263.18	1239.10	1224.53	1218.85	1224.53	1239.10	1263.18	1277.02	1309.93	1298.80	1309.93	1277.02	1263.18	1239.10
35.00°	1241.58	1249.15	1219.21	1197.50	1186.01	1158.92	1157.04	1158.92	1186.01	1197.50	1219.21	1249.15	1241.58	1249.15	1219.21	1197.50	1186.01
37.50°	1181.59	1184.07	1156.19	1133.58	1110.35	1094.63	1090.15	1094.63	1110.35	1133.58	1156.19	1184.07	1181.59	1184.07	1156.19	1133.58	1110.35
40.00°	1114.22	1118.82	1091.30	1067.66	1045.46	1030.34	1023.63	1030.34	1045.46	1067.66	1091.30	1118.82	1114.22	1118.82	1091.30	1067.66	1045.46
42.50°	1050.84	1052.11	1025.81	1004.70	981.42	966.30	959.52	966.30	981.42	1004.70	1025.81	1052.11	1050.84	1052.11	1025.81	1004.70	981.42
45.00°	986.86	988.92	961.22	941.80	915.50	900.74	896.02	900.74	915.50	941.80	961.22	988.92	986.86	988.92	961.22	941.80	915.50
47.50°	921.06	921.06	897.35	876.25	851.33	836.33	831.80	836.33	851.33	876.25	897.35	921.06	921.06	921.06	897.35	876.25	851.33
50.00°	854.90	857.08	830.77	810.99	786.56	774.22	768.78	774.22	786.56	810.99	830.77	857.08	854.90	857.08	830.77	810.99	786.56
52.50°	789.34	791.70	766.78	748.04	726.63	712.66	709.27	712.66	726.63	748.04	766.78	791.70	789.34	791.70	766.78	748.04	726.63
55.00°	728.26	727.11	706.07	686.17	667.97	657.81	650.97	657.81	667.97	686.17	706.07	727.11	728.26	727.11	706.07	686.17	667.97
57.50°	666.45	661.56	642.50	626.42	608.82	596.72	592.55	596.72	608.82	626.42	642.50	661.56	666.45	661.56	642.50	626.42	608.82
60.00°	603.56	599.39	584.02	565.58	550.34	540.42	535.82	540.42	550.34	565.58	584.02	599.39	603.56	599.39	584.02	565.58	550.34
62.50°	544.05	540.18	525.30	507.67	490.34	483.99	481.43	483.99	490.34	507.67	525.30	540.18	544.05	540.18	525.30	507.67	490.34
65.00°	484.59	480.46	468.77	455.39	439.53	434.30	430.78	434.30	439.53	455.39	468.77	480.46	484.59	480.46	468.77	455.39	439.53
67.50°	425.97	423.55	412.84	399.13	387.83	382.75	380.37	382.75	387.83	399.13	412.84	423.55	425.97	423.55	412.84	399.13	387.83
70.00°	372.34	368.46	356.50	347.83	339.34	332.90	331.51	332.90	339.34	347.83	356.50	368.46	372.34	368.46	356.50	347.83	339.34
72.50°	315.85	306.39	305.44	296.15	288.21	283.95	283.12	283.95	288.21	296.15	305.44	306.39	315.85	306.39	305.44	296.15	288.21
75.00°	264.82	262.32	255.54	246.73	243.51	237.66	238.08	237.66	243.51	246.73	255.54	262.32	264.82	262.32	255.54	246.73	243.51
77.50°	217.35	213.66	207.28	200.82	197.35	193.13	193.43	193.13	197.35	200.82	207.28	213.66	217.35	213.66	207.28	200.82	197.35
80.00°	169.48	166.61	161.30	158.43	154.11	151.90	150.62	151.90	154.11	158.43	161.30	166.61	169.48	166.61	161.30	158.43	154.11
82.50°	123.71	122.33	120.20	117.29	115.49	114.00	117.91	114.00	115.49	117.29	120.20	122.33	123.71	122.33	120.20	117.29	115.49
85.00°	80.16	78.74	75.93	75.23	73.94	72.45	70.48	72.45	73.94	75.23	75.93	78.74	80.16	78.74	75.93	75.23	73.94

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NORTHERN LIGHTS TESTING LABORATORIES

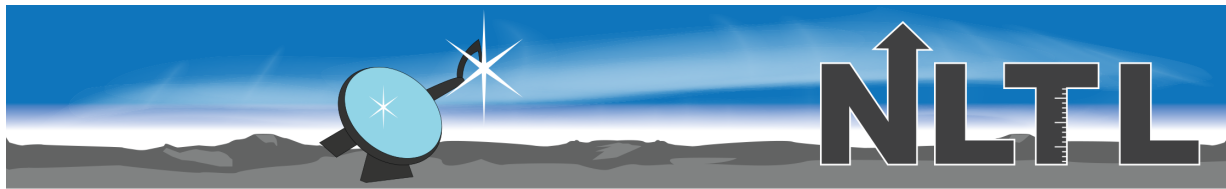
Coefficients of Utilization – Zonal Cavity Method

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	9605	9605	9605	8816	8816	8816	7343	7343	5995	5995	5995	4757	4757	4757	4175
	1.00	8767	8378	8029	8033	7703	7405	6438	6226	5277	5131	4931	4207	4110	4020	3521
	2.00	7989	7327	6780	7310	6745	6273	5652	5307	4644	4400	4088	3712	3546	3399	2963
	3.00	7293	6448	5793	6669	5943	5374	4993	4570	4115	3808	3437	3299	3086	2904	2522
	4.00	6676	5712	5005	6104	5272	4653	4443	3975	3673	3329	2930	2956	2713	2512	2174
RCR	5.00	6131	5093	4367	5607	4708	4068	3980	3490	3302	2937	2529	2669	2407	2196	1897
	6.00	5649	4569	3844	5170	4230	3588	3588	3091	2988	2613	2207	2426	2153	1940	1673
	7.00	5223	4124	3411	4784	3824	3190	3254	2758	2721	2342	1944	2220	1941	1729	1489
	8.00	4846	3744	3050	4444	3477	2856	2968	2479	2491	2115	1728	2042	1762	1553	1337
	9.00	4512	3417	2746	4142	3178	2576	2722	2243	2292	1921	1548	1887	1609	1405	1209
	10.00	4215	3134	2487	3874	2919	2337	2508	2042	2120	1756	1396	1753	1478	1279	1101

Cone of Light

Mounting Height	Beam Center Light Level	0°-180° Beam Width	90°-270° Beam Width
8 ft	27 fc	19 ft	16 ft
10 ft	17 fc	23 ft	21 ft
12 ft	12 fc	28 ft	25 ft
14 ft	9 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: 7/11/2024

Sphere Test:

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

24.3°C, 26RH%

277.19 Vac, 68.68W

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-F-F

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

Test Info

Model: HP3 (REF#)

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

Manufacturer: Finelite, Inc.

Test Date: 11-22-2024

Temperature: 24.3° C

Humidity: 26%

Spectrum Range: 380 - 780 nm

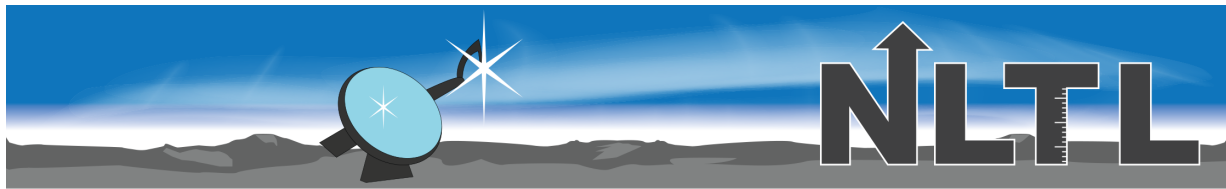
Scan Step: 1 nm

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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: 12/4/2024

Goniometer Test:

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

24.3 °C, 20RH%

277.19 Vac, 68.68W

Stable per LM-79 Standard