

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P930390

Luminaire Tested: DFN2DS-HX4F0-110DS927-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930390
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-HX4F0-110DS927-RLL
Description: 4 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

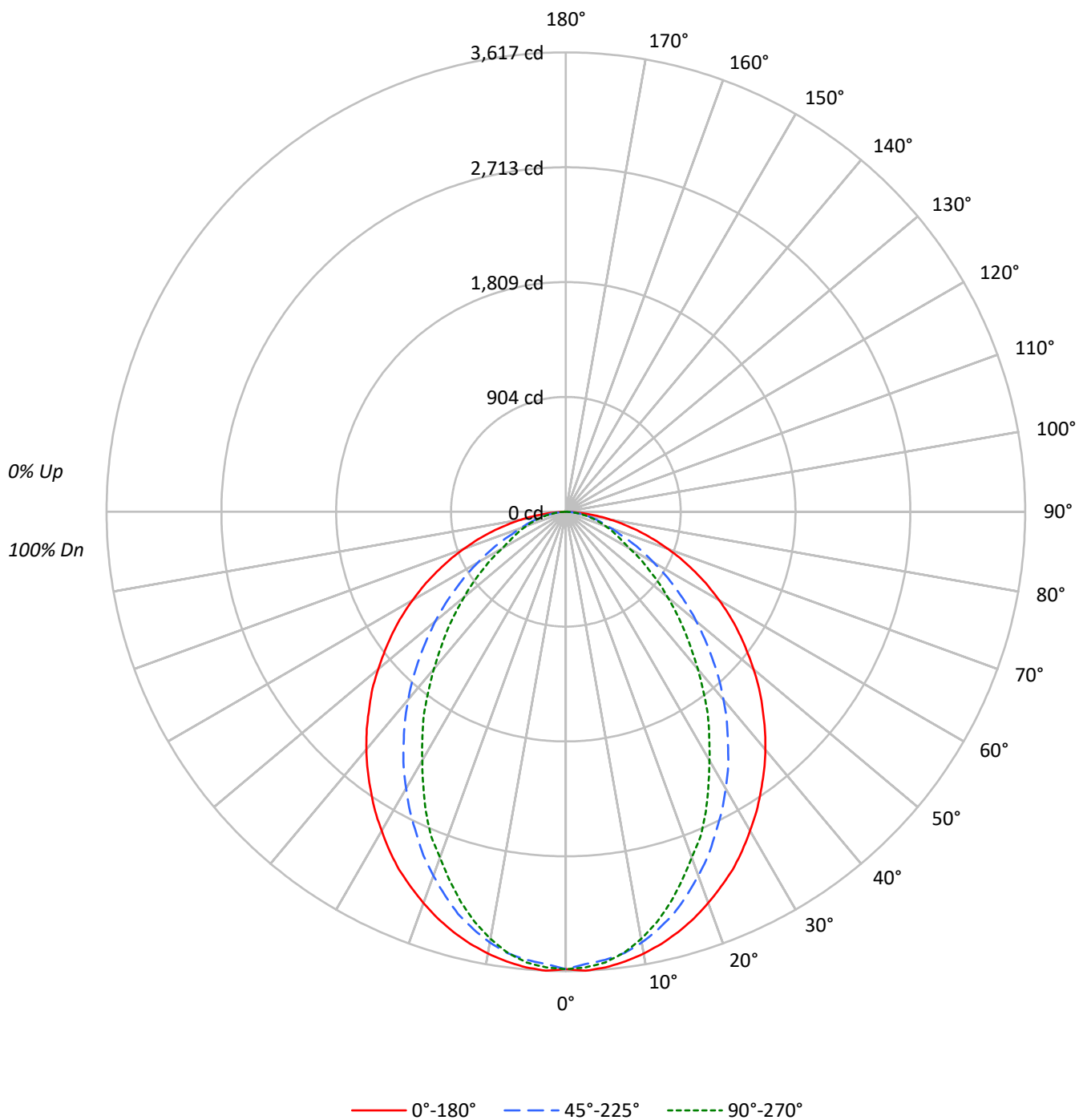
Lumens per Lamp: N/A
Luminaire Lumens: 7405.2 lumens
Efficiency: N/A
Efficacy: 63.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 117.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9967
Total Harmonic Distortion (THDi): 0.063
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20			
RC	80				70				50				30				10			0
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50	30	10	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92	90	88	86
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82	79	76	74
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74	69	66	64
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66	62	57	55
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60	55	51	49
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55	50	45	43
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51	45	41	39
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47	41	37	35
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44	38	34	32
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41	35	31	29

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2677	2677	2677
5°	2688	2644	2658
10°	2667	2601	2578
15°	2636	2523	2451
20°	2594	2413	2292
25°	2550	2288	2139
30°	2490	2160	1942
35°	2431	2020	1769
40°	2372	1875	1569
45°	2303	1713	1388
50°	2232	1549	1210
55°	2158	1373	1039
60°	2074	1187	863
65°	1978	998	785
70°	1863	822	722
75°	1722	749	674
80°	1521	669	614
85°	1194	528	528

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2303 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	337.5	4.6
10°-20°	926.4	12.5
20°-30°	1300.6	17.6
30°-40°	1417.8	19.1
40°-50°	1303.1	17.6
50°-60°	1023.4	13.8
60°-70°	666.1	9.0
70°-80°	342.9	4.6
80°-90°	87.6	1.2
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	2564.5	34.6
0°-40°	3982.2	53.8
0°-60°	6308.7	85.2
0°-90°	7405.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7405.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3601	3601	3601	3601	3601	
5°	3601	3584	3542	3571	3562	341
15°	3425	3389	3278	3216	3184	965
25°	3109	3004	2789	2656	2607	1430
35°	2679	2512	2226	2020	1948	1677
45°	2190	1971	1629	1398	1320	1691
55°	1665	1411	1059	864	802	1488
65°	1124	860	567	456	446	1115
75°	600	371	261	238	235	634
85°	140	72	62	62	62	168
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3600.7	3600.7	3600.7	3600.7	3600.7
2.5°	3616.9	3600.7	3564.7	3597.6	3591.0
5°	3600.7	3584.4	3541.9	3571.3	3561.6
7.5°	3571.3	3551.9	3506.3	3519.1	3502.8
10°	3532.2	3509.4	3444.4	3434.3	3415.0
12.5°	3483.5	3454.1	3365.9	3346.5	3310.6
15°	3424.7	3388.7	3278.1	3216.2	3183.7
17.5°	3356.3	3304.1	3167.1	3095.5	3043.3
20°	3278.1	3212.7	3049.9	2968.7	2896.7
22.5°	3193.4	3118.3	2929.3	2818.6	2769.9
25°	3108.7	3004.3	2789.3	2655.8	2606.7
27.5°	3007.8	2896.7	2658.9	2505.7	2430.7
30°	2900.2	2776.1	2515.5	2349.5	2261.3
32.5°	2795.8	2645.8	2378.9	2183.2	2101.7
35°	2678.6	2512.3	2225.8	2020.4	1948.5
37.5°	2564.6	2385.1	2082.2	1857.2	1776.0
40°	2443.9	2248.6	1932.2	1700.9	1616.2
42.5°	2320.1	2111.6	1782.6	1541.2	1460.0
45°	2189.8	1971.3	1629.4	1397.7	1319.6
47.5°	2066.0	1834.7	1482.8	1251.1	1179.6
50°	1929.1	1697.8	1339.4	1114.3	1046.2
52.5°	1795.3	1550.9	1202.4	987.4	925.5
55°	1664.9	1410.9	1058.9	863.6	801.7
57.5°	1531.6	1270.8	932.0	749.5	697.3
60°	1394.6	1134.0	798.3	632.3	580.1
62.5°	1261.2	1000.5	684.2	527.9	502.0
65°	1124.2	860.1	567.0	456.4	446.3
67.5°	994.0	729.8	456.4	400.7	391.0
70°	857.0	602.9	377.9	345.4	332.2
72.5°	726.7	485.4	316.0	290.0	283.5
75°	599.5	371.3	260.6	237.8	234.7
77.5°	472.6	263.8	205.4	192.2	185.6
80°	355.1	189.1	156.3	143.5	143.5
82.5°	247.5	127.2	107.6	101.0	101.0
85°	140.0	71.6	61.9	61.9	61.9
87.5°	52.2	25.9	25.9	22.8	22.8
90°	0.0	0.0	0.0	0.0	0.0

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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference 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	14.66	16.18	15.02	16.49	16.81	10.62	12.14	10.98	12.45	12.77
	3H	16.42	17.79	16.80	18.11	18.48	11.88	13.25	12.26	13.57	13.94
	4H	17.09	18.37	17.49	18.72	19.10	12.38	13.66	12.78	14.01	14.39
	6H	17.58	18.76	17.99	19.13	19.52	12.76	13.95	13.18	14.31	14.71
	8H	17.74	18.87	18.17	19.26	19.66	12.89	14.02	13.32	14.41	14.81
	12H	17.85	18.92	18.28	19.31	19.73	12.97	14.05	13.40	14.43	14.86
4H	2H	14.76	16.04	15.16	16.39	16.77	11.31	12.59	11.71	12.94	13.32
	3H	16.69	17.76	17.10	18.16	18.56	12.76	13.82	13.17	14.22	14.62
	4H	17.44	18.40	17.88	18.82	19.25	13.35	14.31	13.79	14.73	15.17
	6H	18.03	18.87	18.49	19.31	19.77	13.84	14.67	14.30	15.12	15.58
	8H	18.25	19.03	18.71	19.47	19.94	14.00	14.78	14.47	15.23	15.69
	12H	18.40	19.10	18.88	19.58	20.05	14.12	14.82	14.60	15.30	15.77
8H	4H	17.47	18.24	17.93	18.69	19.16	13.71	14.49	14.17	14.93	15.40
	6H	18.10	18.75	18.60	19.24	19.72	14.30	14.94	14.79	15.43	15.91
	8H	18.36	18.93	18.87	19.44	19.93	14.52	15.09	15.03	15.60	16.09
	12H	18.56	19.07	19.07	19.56	20.13	14.70	15.21	15.21	15.70	16.26
12H	4H	17.45	18.15	17.93	18.62	19.10	13.75	14.45	14.23	14.92	15.40
	6H	18.09	18.66	18.60	19.17	19.66	14.36	14.94	14.87	15.45	15.93
	8H	18.37	18.88	18.88	19.37	19.94	14.63	15.14	15.14	15.63	16.20