

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: P930392

Luminaire Tested: DFN2DS-HX4F0-110DS930-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930392
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-HX4F0-110DS930-RLL
Description: 4 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

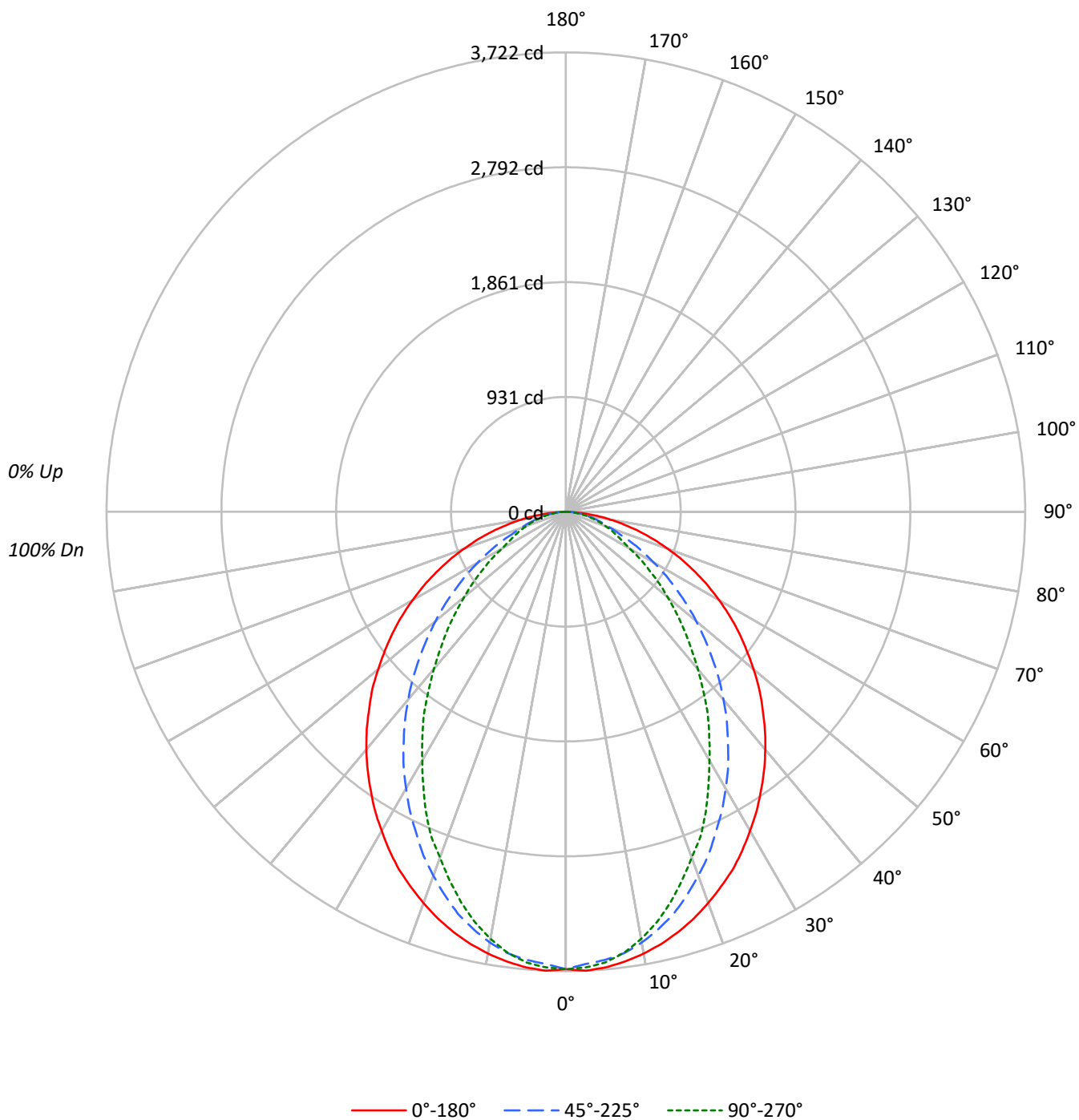
Lumens per Lamp: N/A
Luminaire Lumens: 7620.3 lumens
Efficiency: N/A
Efficacy: 65.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2755	2755	2755
5°	2766	2720	2736
10°	2744	2676	2653
15°	2713	2597	2522
20°	2669	2483	2359
25°	2625	2355	2201
30°	2562	2222	1998
35°	2502	2079	1820
40°	2441	1930	1614
45°	2370	1763	1428
50°	2296	1594	1245
55°	2221	1413	1070
60°	2134	1222	888
65°	2035	1027	808
70°	1917	845	743
75°	1772	771	694
80°	1565	689	632
85°	1229	543	543

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2370 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	347.3	4.6
10°-20°	953.3	12.5
20°-30°	1338.4	17.6
30°-40°	1458.9	19.1
40°-50°	1340.9	17.6
50°-60°	1053.1	13.8
60°-70°	685.5	9.0
70°-80°	352.9	4.6
80°-90°	90.1	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°	2638.9	34.6
0°-40°	4097.9	53.8
0°-60°	6491.9	85.2
0°-90°	7620.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7620.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3705	3705	3705	3705	3705	
5°	3705	3688	3645	3675	3665	351
15°	3524	3487	3373	3310	3276	993
25°	3199	3092	2870	2733	2682	1471
35°	2756	2585	2290	2079	2005	1725
45°	2253	2028	1677	1438	1358	1740
55°	1713	1452	1090	889	825	1531
65°	1157	885	584	470	459	1147
75°	617	382	268	245	242	652
85°	144	74	64	64	64	173
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3705.2	3705.2	3705.2	3705.2	3705.2
2.5°	3721.9	3705.2	3668.2	3702.1	3695.3
5°	3705.2	3688.5	3644.8	3675.0	3665.1
7.5°	3675.0	3655.0	3608.1	3621.3	3604.5
10°	3634.8	3611.3	3544.4	3534.1	3514.2
12.5°	3584.6	3554.4	3463.7	3443.7	3406.7
15°	3524.1	3487.1	3373.3	3309.6	3276.1
17.5°	3453.7	3400.0	3259.1	3185.4	3131.7
20°	3373.3	3306.0	3138.5	3054.9	2980.9
22.5°	3286.2	3208.9	3014.4	2900.5	2850.3
25°	3199.0	3091.5	2870.3	2732.9	2682.4
27.5°	3095.1	2980.9	2736.1	2578.5	2501.3
30°	2984.4	2856.7	2588.5	2417.7	2327.0
32.5°	2877.0	2722.6	2447.9	2246.6	2162.7
35°	2756.4	2585.3	2290.4	2079.1	2005.1
37.5°	2639.1	2454.4	2142.7	1911.1	1827.6
40°	2514.8	2313.9	1988.4	1750.3	1663.2
42.5°	2387.5	2173.0	1834.3	1586.0	1502.4
45°	2253.4	2028.5	1676.7	1438.3	1358.0
47.5°	2126.0	1888.0	1525.8	1287.5	1213.9
50°	1985.1	1747.1	1378.2	1146.6	1076.5
52.5°	1847.4	1595.9	1237.3	1016.1	952.3
55°	1713.3	1451.8	1089.7	888.7	825.0
57.5°	1576.0	1307.7	959.1	771.3	717.5
60°	1435.1	1166.9	821.4	650.7	597.0
62.5°	1297.8	1029.6	704.1	543.3	516.5
65°	1156.9	885.1	583.5	469.6	459.3
67.5°	1022.8	751.0	469.6	412.3	402.4
70°	881.9	620.5	388.8	355.4	341.9
72.5°	747.8	499.5	325.2	298.5	291.7
75°	616.9	382.1	268.2	244.7	241.6
77.5°	486.3	271.5	211.3	197.8	191.0
80°	365.4	194.6	160.8	147.7	147.7
82.5°	254.7	130.9	110.7	103.9	103.9
85°	144.1	73.7	63.7	63.7	63.7
87.5°	53.7	26.7	26.7	23.5	23.5
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	14.76	16.28	15.12	16.59	16.91	10.72	12.24	11.08	12.55	12.87
	3H	16.52	17.89	16.90	18.21	18.58	11.98	13.35	12.36	13.67	14.04
	4H	17.19	18.47	17.59	18.82	19.20	12.48	13.76	12.88	14.11	14.49
	6H	17.68	18.86	18.09	19.23	19.62	12.86	14.05	13.28	14.41	14.81
	8H	17.84	18.97	18.27	19.36	19.76	12.99	14.12	13.42	14.51	14.91
	12H	17.94	19.02	18.38	19.41	19.83	13.07	14.15	13.50	14.53	14.96
4H	2H	14.86	16.14	15.26	16.49	16.87	11.41	12.69	11.81	13.04	13.42
	3H	16.79	17.86	17.20	18.26	18.66	12.86	13.92	13.27	14.32	14.72
	4H	17.54	18.50	17.98	18.91	19.35	13.45	14.41	13.89	14.83	15.27
	6H	18.13	18.97	18.59	19.41	19.87	13.94	14.77	14.40	15.22	15.68
	8H	18.35	19.13	18.81	19.57	20.04	14.10	14.88	14.57	15.33	15.79
	12H	18.50	19.20	18.98	19.68	20.15	14.22	14.92	14.70	15.39	15.87
8H	4H	17.57	18.34	18.03	18.79	19.26	13.81	14.59	14.27	15.03	15.50
	6H	18.20	18.85	18.70	19.34	19.82	14.40	15.04	14.89	15.53	16.01
	8H	18.45	19.03	18.97	19.54	20.03	14.62	15.19	15.13	15.70	16.19
	12H	18.66	19.17	19.17	19.66	20.23	14.80	15.31	15.30	15.80	16.36
12H	4H	17.55	18.25	18.03	18.72	19.20	13.85	14.55	14.33	15.02	15.50
	6H	18.18	18.76	18.70	19.27	19.76	14.46	15.04	14.97	15.55	16.03
	8H	18.47	18.98	18.98	19.47	20.04	14.73	15.24	15.24	15.73	16.30