

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: P930410

Luminaire Tested: DFN2DS-HX4F0-120DS930-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930410
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-HX4F0-120DS930-RLL
Description: 4 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

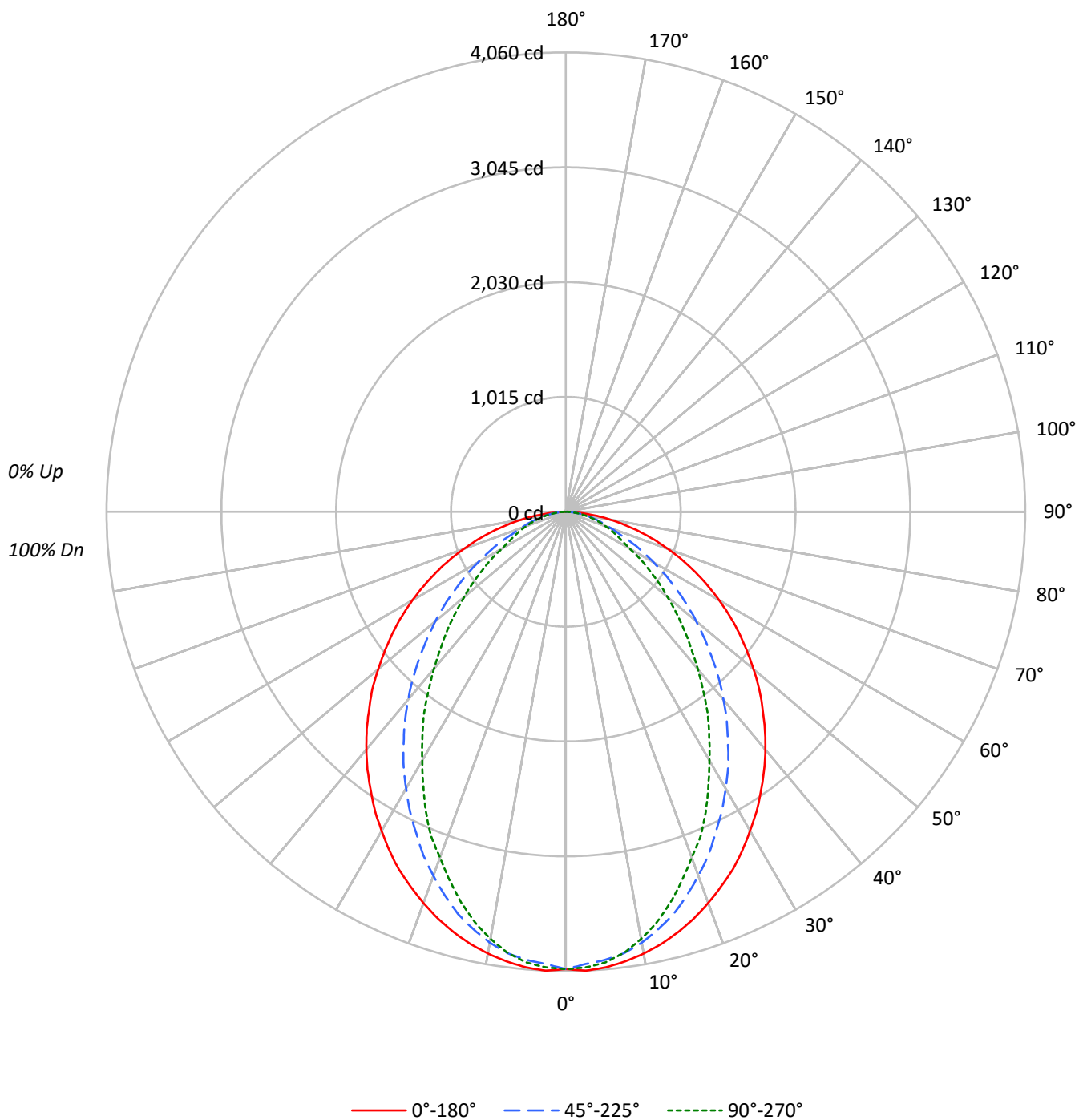
Lumens per Lamp: N/A
Luminaire Lumens: 8313.0 lumens
Efficiency: N/A
Efficacy: 63.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 131
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9954
Total Harmonic Distortion (THDi): 0.076
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P930410

CATALOG NUMBER: DFN2DS-HX4F0-120DS930-RLL

Luminous Intensity Polar Plot



TEST NUMBER: P930410

CATALOG NUMBER: DFN2DS-HX4F0-120DS930-RLL

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°	3006	3006	3006
5°	3017	2968	2984
10°	2994	2919	2895
15°	2959	2833	2751
20°	2912	2709	2573
25°	2863	2569	2401
30°	2795	2424	2180
35°	2730	2268	1985
40°	2663	2105	1761
45°	2585	1923	1558
50°	2505	1739	1359
55°	2423	1541	1167
60°	2328	1333	969
65°	2221	1120	882
70°	2092	922	811
75°	1933	841	757
80°	1707	751	689
85°	1341	592	592

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2585 cd/sqm

TEST NUMBER: P930410

CATALOG NUMBER: DFN2DS-HX4F0-120DS930-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	378.8	4.6
10°-20°	1040.0	12.5
20°-30°	1460.1	17.6
30°-40°	1591.6	19.1
40°-50°	1462.8	17.6
50°-60°	1148.8	13.8
60°-70°	747.8	9.0
70°-80°	384.9	4.6
80°-90°	98.3	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°	2878.9	34.6
0°-40°	4470.4	53.8
0°-60°	7082.1	85.2
0°-90°	8313.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8313.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4042	4042	4042	4042	4042	
5°	4042	4024	3976	4009	3998	383
15°	3844	3804	3680	3610	3574	1083
25°	3490	3373	3131	2981	2926	1605
35°	3007	2820	2498	2268	2187	1882
45°	2458	2213	1829	1569	1481	1898
55°	1869	1584	1189	969	900	1670
65°	1262	966	636	512	501	1251
75°	673	417	293	267	264	712
85°	157	80	69	69	69	188
90°	0	0	0	0	0	

TEST NUMBER: P930410

CATALOG NUMBER: DFN2DS-HX4F0-120DS930-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4042.1	4042.1	4042.1	4042.1	4042.1
2.5°	4060.3	4042.1	4001.7	4038.6	4031.2
5°	4042.1	4023.8	3976.1	4009.1	3998.2
7.5°	4009.1	3987.3	3936.1	3950.5	3932.2
10°	3965.2	3939.6	3866.6	3855.4	3833.7
12.5°	3910.5	3877.5	3778.5	3756.8	3716.5
15°	3844.5	3804.2	3680.0	3610.4	3574.0
17.5°	3767.7	3709.1	3555.4	3475.1	3416.5
20°	3680.0	3606.6	3423.8	3332.6	3251.8
22.5°	3584.9	3500.7	3288.4	3164.2	3109.5
25°	3489.8	3372.6	3131.1	2981.4	2926.3
27.5°	3376.5	3251.8	2984.9	2813.0	2728.7
30°	3255.8	3116.5	2823.8	2637.5	2538.6
32.5°	3138.6	2970.1	2670.5	2450.9	2359.3
35°	3007.0	2820.3	2498.5	2268.1	2187.3
37.5°	2878.9	2677.5	2337.5	2084.9	1993.7
40°	2743.5	2524.2	2169.1	1909.5	1814.4
42.5°	2604.5	2370.5	2001.1	1730.2	1639.0
45°	2458.2	2213.0	1829.1	1569.1	1481.3
47.5°	2319.2	2059.7	1664.6	1404.6	1324.2
50°	2165.6	1906.0	1503.5	1250.9	1174.4
52.5°	2015.4	1741.0	1349.8	1108.4	1039.0
55°	1869.1	1583.9	1188.8	969.4	900.0
57.5°	1719.2	1426.7	1046.3	841.4	782.8
60°	1565.6	1272.9	896.1	709.9	651.3
62.5°	1415.8	1123.2	768.1	592.7	563.5
65°	1262.1	965.6	636.5	512.3	501.1
67.5°	1115.8	819.2	512.3	449.8	439.0
70°	962.1	676.9	424.2	387.7	372.9
72.5°	815.8	544.9	354.7	325.6	318.3
75°	672.9	416.8	292.7	267.0	263.5
77.5°	530.6	296.1	230.6	215.8	208.4
80°	398.6	212.3	175.4	161.0	161.0
82.5°	277.9	142.8	120.7	113.3	113.3
85°	157.2	80.4	69.4	69.4	69.4
87.5°	58.6	29.1	29.1	25.6	25.6
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P930410

CATALOG NUMBER: DFN2DS-HX4F0-120DS930-RLL

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	15.06	16.58	15.42	16.89	17.21	11.02	12.54	11.38	12.85	13.17
	3H	16.82	18.19	17.20	18.52	18.88	12.28	13.65	12.66	13.98	14.34
	4H	17.49	18.77	17.89	19.12	19.50	12.79	14.07	13.19	14.41	14.79
	6H	17.98	19.16	18.39	19.53	19.92	13.17	14.35	13.58	14.72	15.11
	8H	18.14	19.27	18.57	19.66	20.06	13.29	14.42	13.72	14.81	15.21
	12H	18.25	19.33	18.68	19.71	20.14	13.37	14.45	13.80	14.83	15.26
4H	2H	15.16	16.44	15.56	16.79	17.17	11.71	12.99	12.11	13.34	13.72
	3H	17.10	18.16	17.51	18.56	18.96	13.16	14.22	13.57	14.62	15.02
	4H	17.84	18.80	18.28	19.22	19.66	13.76	14.71	14.19	15.13	15.57
	6H	18.44	19.27	18.89	19.71	20.17	14.24	15.08	14.70	15.52	15.98
	8H	18.65	19.43	19.11	19.87	20.34	14.41	15.18	14.87	15.63	16.10
	12H	18.80	19.50	19.29	19.98	20.45	14.52	15.22	15.01	15.70	16.17
8H	4H	17.87	18.65	18.33	19.09	19.56	14.11	14.89	14.57	15.33	15.80
	6H	18.51	19.15	19.00	19.64	20.12	14.70	15.34	15.19	15.83	16.31
	8H	18.76	19.33	19.27	19.84	20.33	14.92	15.49	15.43	16.00	16.49
	12H	18.96	19.47	19.47	19.96	20.53	15.10	15.61	15.61	16.10	16.66
12H	4H	17.85	18.55	18.34	19.03	19.50	14.15	14.85	14.64	15.33	15.80
	6H	18.49	19.06	19.00	19.57	20.06	14.76	15.34	15.27	15.85	16.34
	8H	18.77	19.28	19.28	19.77	20.34	15.03	15.54	15.54	16.04	16.60