

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: P930399

Luminaire Tested: DFN2DS-HX4F0-120DS830-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930399
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-HX4F0-120DS830-FLL
Description: 4 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

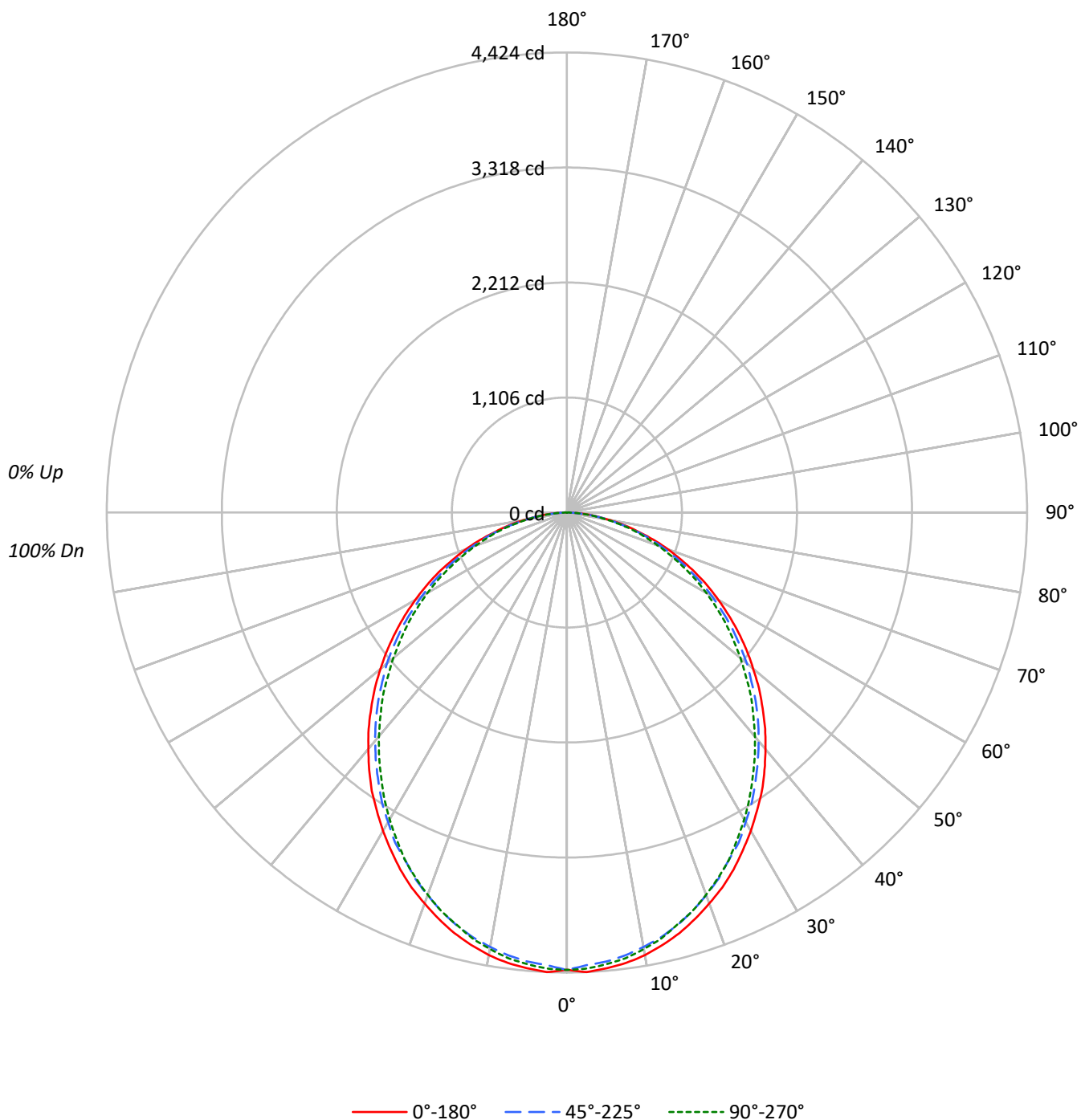
Lumens per Lamp: N/A
Luminaire Lumens: 11191.0 lumens
Efficiency: N/A
Efficacy: 85.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

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

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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	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3271	3271	3271
5°	3283	3236	3255
10°	3264	3203	3219
15°	3223	3161	3158
20°	3166	3099	3096
25°	3109	3023	3023
30°	3036	2952	2927
35°	2968	2868	2826
40°	2882	2783	2730
45°	2798	2699	2633
50°	2705	2612	2520
55°	2610	2511	2418
60°	2503	2390	2302
65°	2389	2270	2166
70°	2244	2124	2023
75°	2041	1956	1908
80°	1812	1756	1666
85°	1478	1409	1264

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2798 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	414.0	3.7
10°-20°	1164.8	10.4
20°-30°	1711.8	15.3
30°-40°	1988.1	17.8
40°-50°	1985.7	17.7
50°-60°	1731.4	15.5
60°-70°	1279.9	11.4
70°-80°	724.1	6.5
80°-90°	191.1	1.7
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°	3290.5	29.4
0°-40°	5278.7	47.2
0°-60°	8995.8	80.4
0°-90°	11191.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11191.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4398	4398	4398	4398	4398	
5°	4398	4382	4335	4369	4361	418
15°	4187	4162	4107	4124	4103	1179
25°	3790	3756	3684	3692	3684	1744
35°	3269	3227	3160	3134	3113	2042
45°	2660	2631	2567	2521	2504	2053
55°	2013	1988	1937	1886	1865	1800
65°	1358	1332	1290	1252	1231	1343
75°	710	702	681	656	664	758
85°	173	169	165	152	148	204
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4398.5	4398.5	4398.5	4398.5	4398.5
2.5°	4424.0	4402.9	4356.3	4398.5	4390.4
5°	4398.5	4381.8	4335.2	4368.8	4360.7
7.5°	4368.8	4343.7	4297.0	4331.1	4322.6
10°	4322.6	4293.0	4242.3	4275.9	4263.4
12.5°	4258.9	4233.7	4183.0	4204.1	4195.6
15°	4187.1	4161.9	4106.7	4123.8	4102.7
17.5°	4098.3	4073.1	4017.9	4039.0	4017.9
20°	4000.9	3975.7	3916.6	3929.1	3912.5
22.5°	3903.9	3865.8	3810.6	3810.6	3802.1
25°	3789.5	3755.8	3684.1	3692.2	3684.1
27.5°	3662.5	3632.9	3578.2	3565.6	3544.6
30°	3536.0	3501.9	3438.6	3426.1	3409.0
32.5°	3400.4	3375.4	3307.6	3282.0	3265.0
35°	3269.4	3227.3	3159.5	3133.9	3112.8
37.5°	3121.3	3083.3	3015.4	2985.9	2964.8
40°	2969.3	2935.2	2867.4	2829.7	2812.6
42.5°	2821.2	2787.1	2719.7	2677.2	2652.0
45°	2660.5	2630.9	2567.1	2521.0	2503.9
47.5°	2503.9	2474.3	2406.5	2359.9	2334.7
50°	2338.8	2317.7	2258.4	2199.2	2178.1
52.5°	2178.1	2148.5	2093.8	2047.1	2017.5
55°	2013.4	1987.9	1937.1	1886.4	1865.3
57.5°	1848.3	1827.2	1772.0	1721.3	1704.3
60°	1683.2	1666.6	1607.3	1560.7	1548.1
62.5°	1522.6	1492.9	1450.8	1408.6	1391.5
65°	1357.9	1332.3	1290.1	1251.9	1230.9
67.5°	1188.7	1167.1	1129.5	1099.9	1082.8
70°	1032.1	1015.0	976.9	947.3	930.7
72.5°	871.4	854.4	833.3	803.7	791.1
75°	710.4	702.3	680.7	655.6	664.1
77.5°	566.7	549.7	541.2	528.6	516.0
80°	423.1	418.6	410.1	397.6	389.0
82.5°	287.6	287.6	283.6	266.6	266.6
85°	173.2	169.2	165.1	152.1	148.1
87.5°	76.3	67.7	59.3	46.6	42.2
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	15.40	17.01	15.76	17.32	17.64	14.96	16.57	15.32	16.88	17.19
	3H	17.15	18.60	17.53	18.93	19.29	16.66	18.11	17.04	18.44	18.80
	4H	17.80	19.16	18.19	19.51	19.89	17.30	18.67	17.70	19.02	19.39
	6H	18.26	19.53	18.68	19.90	20.29	17.76	19.03	18.17	19.40	19.79
	8H	18.41	19.62	18.83	20.01	20.41	17.91	19.12	18.33	19.50	19.90
	12H	18.50	19.66	18.93	20.04	20.47	17.99	19.15	18.42	19.53	19.96
4H	2H	15.96	17.33	16.36	17.68	18.05	15.61	16.98	16.01	17.32	17.70
	3H	17.94	19.08	18.34	19.48	19.88	17.53	18.67	17.94	19.07	19.47
	4H	18.71	19.75	19.14	20.16	20.60	18.29	19.32	18.72	19.74	20.17
	6H	19.31	20.21	19.76	20.65	21.11	18.88	19.78	19.33	20.22	20.68
	8H	19.50	20.34	19.96	20.79	21.25	19.06	19.91	19.52	20.35	20.81
	12H	19.63	20.39	20.11	20.87	21.33	19.18	19.94	19.66	20.41	20.88
8H	4H	18.98	19.83	19.45	20.27	20.74	18.61	19.46	19.07	19.90	20.37
	6H	19.70	20.40	20.19	20.89	21.37	19.32	20.02	19.81	20.51	20.98
	8H	19.96	20.59	20.47	21.10	21.58	19.57	20.20	20.08	20.70	21.19
	12H	20.16	20.72	20.67	21.21	21.77	19.75	20.30	20.25	20.79	21.35
12H	4H	19.01	19.77	19.49	20.25	20.72	18.65	19.41	19.13	19.88	20.35
	6H	19.74	20.38	20.25	20.88	21.37	19.38	20.01	19.89	20.51	21.00
	8H	20.06	20.62	20.57	21.11	21.67	19.68	20.24	20.19	20.73	21.29