

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: P930403

Luminaire Tested: DFN2DS-HX4F0-120DS840-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930403
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-HX4F0-120DS840-FLL
Description: 4 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

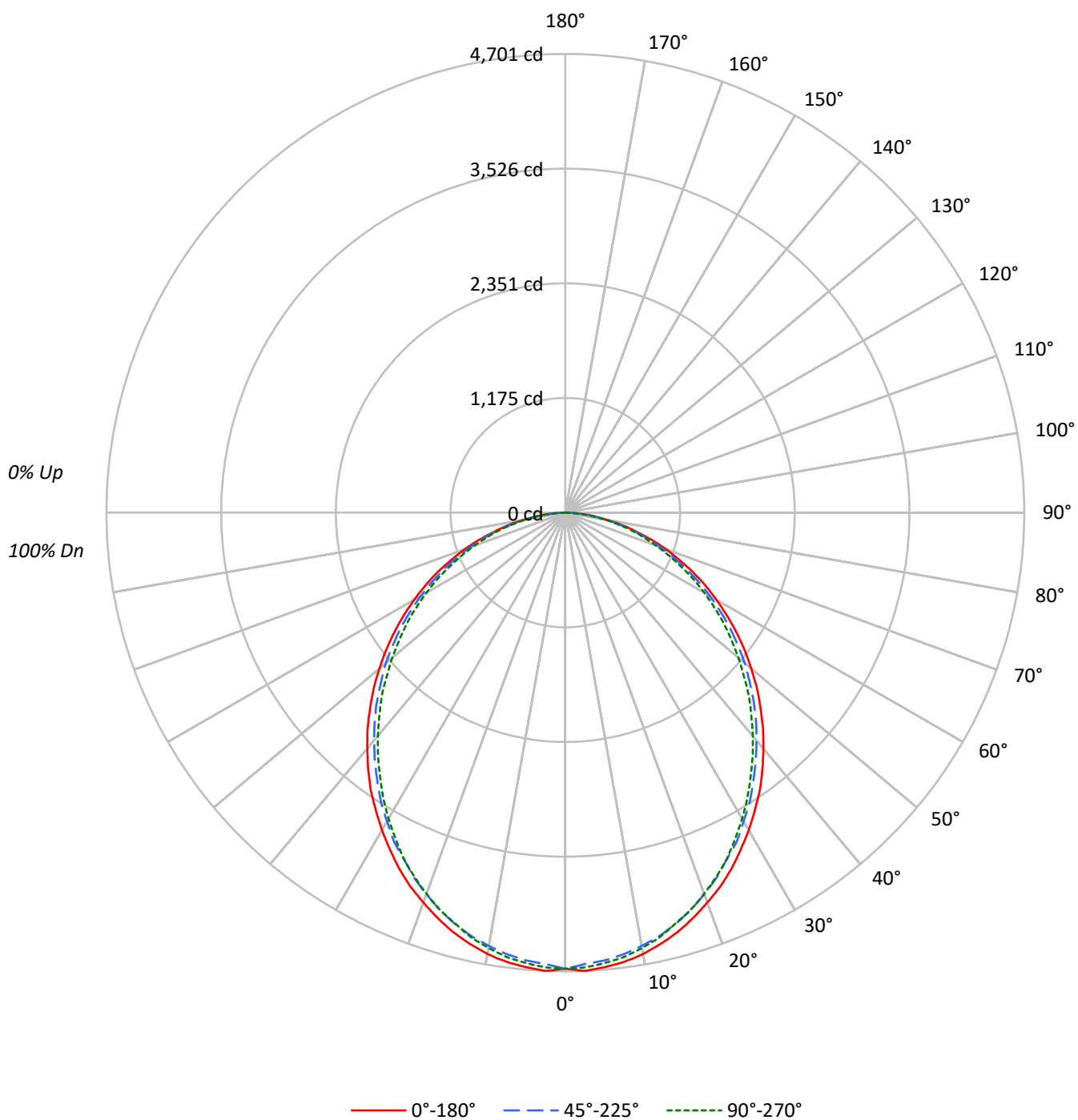
Lumens per Lamp: N/A
Luminaire Lumens: 11891.9 lumens
Efficiency: N/A
Efficacy: 90.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

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°	3475	3475	3475
5°	3489	3438	3459
10°	3468	3404	3421
15°	3425	3359	3356
20°	3364	3293	3290
25°	3304	3212	3212
30°	3226	3137	3110
35°	3154	3048	3003
40°	3063	2957	2901
45°	2973	2869	2798
50°	2875	2776	2677
55°	2774	2669	2570
60°	2660	2540	2446
65°	2539	2412	2301
70°	2384	2257	2150
75°	2169	2078	2027
80°	1925	1866	1770
85°	1571	1497	1343

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2973 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	439.9	3.7
10°-20°	1237.7	10.4
20°-30°	1819.0	15.3
30°-40°	2112.7	17.8
40°-50°	2110.0	17.7
50°-60°	1839.9	15.5
60°-70°	1360.1	11.4
70°-80°	769.5	6.5
80°-90°	203.1	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°	3496.6	29.4
0°-40°	5609.3	47.2
0°-60°	9559.2	80.4
0°-90°	11891.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11891.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4674	4674	4674	4674	4674	
5°	4674	4656	4607	4642	4634	444
15°	4449	4423	4364	4382	4360	1253
25°	4027	3991	3915	3923	3915	1853
35°	3474	3429	3357	3330	3308	2170
45°	2827	2796	2728	2679	2661	2182
55°	2140	2112	2058	2005	1982	1913
65°	1443	1416	1371	1330	1308	1427
75°	755	746	723	697	706	806
85°	184	180	176	162	157	216
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4674.0	4674.0	4674.0	4674.0	4674.0
2.5°	4701.1	4678.7	4629.1	4674.0	4665.4
5°	4674.0	4656.3	4606.7	4642.4	4633.8
7.5°	4642.4	4615.7	4566.2	4602.4	4593.4
10°	4593.4	4561.9	4508.0	4543.7	4530.4
12.5°	4525.6	4498.9	4445.0	4467.5	4458.4
15°	4449.3	4422.6	4364.0	4382.1	4359.7
17.5°	4355.0	4328.2	4269.6	4292.0	4269.6
20°	4251.4	4224.7	4161.9	4175.2	4157.6
22.5°	4148.4	4107.9	4049.2	4049.2	4040.2
25°	4026.8	3991.1	3914.8	3923.4	3914.8
27.5°	3891.9	3860.5	3802.3	3788.9	3766.6
30°	3757.5	3721.2	3654.0	3640.6	3622.5
32.5°	3613.4	3586.8	3514.7	3487.6	3469.5
35°	3474.2	3429.4	3357.4	3330.2	3307.8
37.5°	3316.8	3276.4	3204.3	3172.9	3150.4
40°	3155.3	3119.0	3046.9	3006.9	2988.8
42.5°	2997.9	2961.7	2890.1	2844.8	2818.1
45°	2827.1	2795.7	2727.9	2678.9	2660.8
47.5°	2660.8	2629.2	2557.3	2507.7	2481.0
50°	2485.3	2462.9	2399.9	2336.9	2314.5
52.5°	2314.5	2283.1	2224.9	2175.3	2143.8
55°	2139.5	2112.4	2058.5	2004.6	1982.2
57.5°	1964.1	1941.6	1883.0	1829.1	1811.0
60°	1788.6	1771.0	1708.0	1658.5	1645.0
62.5°	1617.9	1586.4	1541.6	1496.8	1478.7
65°	1442.9	1415.7	1370.9	1330.3	1308.0
67.5°	1263.2	1240.2	1200.2	1168.8	1150.6
70°	1096.7	1078.6	1038.0	1006.6	989.0
72.5°	926.0	907.9	885.5	854.1	840.6
75°	754.9	746.2	723.3	696.7	705.7
77.5°	602.2	584.1	575.1	561.7	548.3
80°	449.6	444.8	435.8	422.5	413.4
82.5°	305.6	305.6	301.4	283.3	283.3
85°	184.1	179.8	175.5	161.7	157.4
87.5°	81.1	72.0	63.0	49.5	44.8
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	15.61	17.22	15.98	17.54	17.85	15.17	16.78	15.53	17.09	17.41
	3H	17.36	18.82	17.74	19.14	19.50	16.87	18.32	17.25	18.65	19.01
	4H	18.01	19.38	18.41	19.72	20.10	17.51	18.88	17.91	19.23	19.61
	6H	18.48	19.74	18.89	20.11	20.50	17.97	19.24	18.39	19.61	20.00
	8H	18.62	19.83	19.04	20.22	20.62	18.12	19.33	18.54	19.72	20.12
	12H	18.71	19.87	19.14	20.25	20.68	18.20	19.36	18.63	19.74	20.17
4H	2H	16.17	17.54	16.57	17.89	18.26	15.82	17.19	16.22	17.53	17.91
	3H	18.15	19.29	18.56	19.69	20.09	17.74	18.89	18.15	19.28	19.68
	4H	18.92	19.96	19.35	20.37	20.81	18.50	19.53	18.93	19.95	20.38
	6H	19.52	20.42	19.97	20.86	21.32	19.09	19.99	19.54	20.43	20.89
	8H	19.71	20.55	20.17	21.00	21.46	19.27	20.12	19.73	20.56	21.02
	12H	19.84	20.60	20.32	21.08	21.55	19.39	20.15	19.87	20.62	21.09
8H	4H	19.20	20.04	19.66	20.48	20.95	18.82	19.67	19.28	20.11	20.58
	6H	19.91	20.61	20.40	21.10	21.58	19.53	20.23	20.02	20.72	21.20
	8H	20.17	20.80	20.68	21.31	21.79	19.78	20.41	20.29	20.92	21.40
	12H	20.37	20.93	20.88	21.42	21.98	19.96	20.51	20.46	21.00	21.57
12H	4H	19.22	19.98	19.70	20.46	20.93	18.86	19.62	19.34	20.09	20.56
	6H	19.96	20.59	20.46	21.09	21.58	19.59	20.22	20.10	20.73	21.21
	8H	20.27	20.83	20.78	21.32	21.88	19.89	20.45	20.40	20.94	21.50