

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: P930415

Luminaire Tested: DFN2DS-HX4F0-120DS950-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930415
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-HX4F0-120DS950-FLL
Description: 4 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

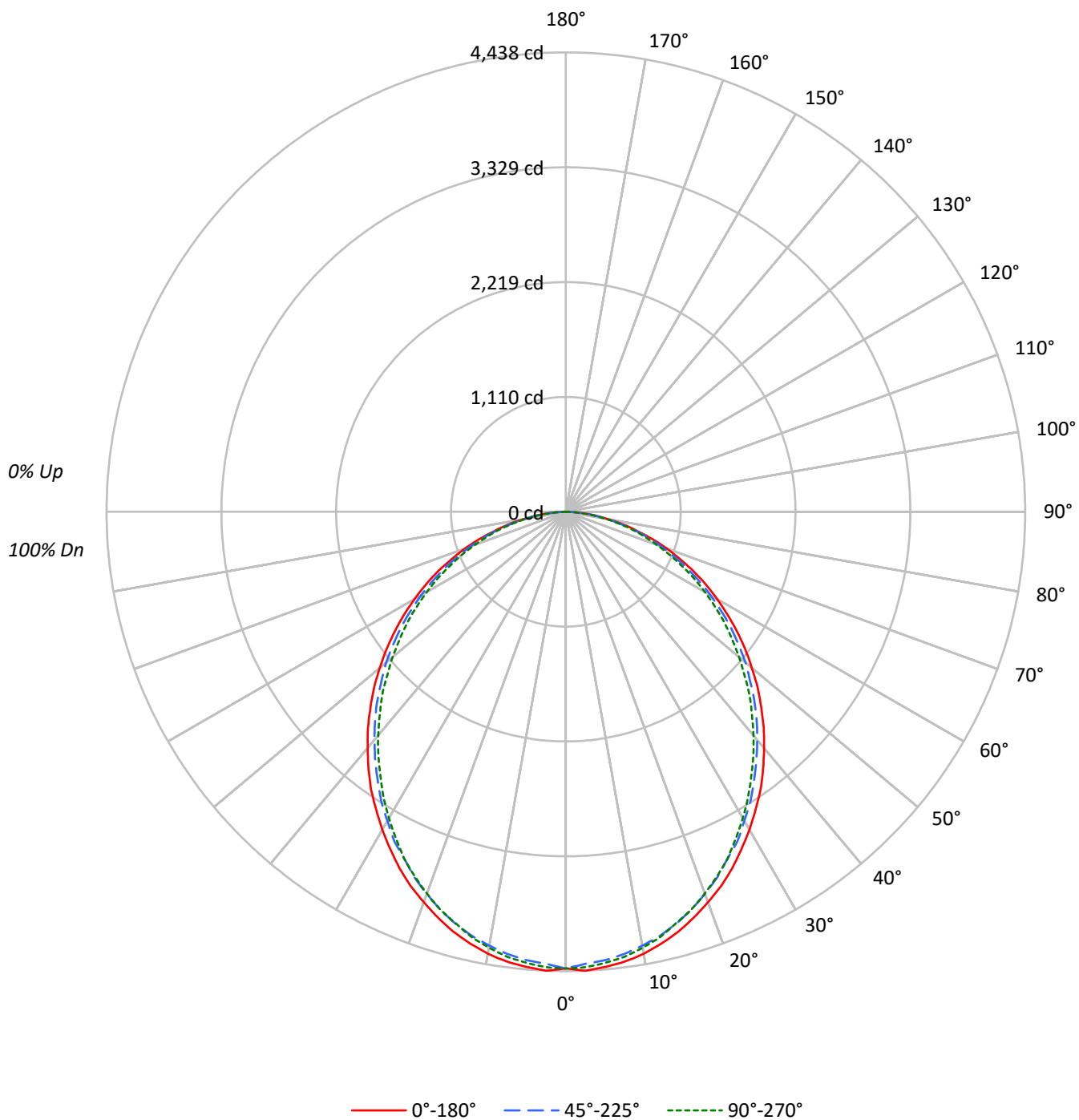
Lumens per Lamp: N/A
Luminaire Lumens: 11226.6 lumens
Efficiency: N/A
Efficacy: 85.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

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°	3281	3281	3281
5°	3294	3246	3265
10°	3274	3213	3229
15°	3233	3171	3168
20°	3176	3109	3106
25°	3119	3032	3032
30°	3046	2962	2936
35°	2977	2877	2835
40°	2891	2792	2739
45°	2807	2708	2641
50°	2714	2621	2528
55°	2618	2519	2426
60°	2511	2398	2310
65°	2397	2277	2173
70°	2251	2131	2030
75°	2047	1962	1914
80°	1818	1762	1671
85°	1483	1414	1268

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2807 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	415.3	3.7
10°-20°	1168.5	10.4
20°-30°	1717.2	15.3
30°-40°	1994.5	17.8
40°-50°	1992.0	17.7
50°-60°	1736.9	15.5
60°-70°	1284.0	11.4
70°-80°	726.4	6.5
80°-90°	191.7	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°	3301.0	29.4
0°-40°	5295.5	47.2
0°-60°	9024.4	80.4
0°-90°	11226.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11226.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4412	4412	4412	4412	4412	
5°	4412	4396	4349	4383	4375	419
15°	4200	4175	4120	4137	4116	1183
25°	3802	3768	3696	3704	3696	1749
35°	3280	3238	3170	3144	3123	2048
45°	2669	2639	2575	2529	2512	2060
55°	2020	1994	1943	1892	1871	1806
65°	1362	1336	1294	1256	1235	1347
75°	713	704	683	658	666	761
85°	174	170	166	153	149	204
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4412.5	4412.5	4412.5	4412.5	4412.5
2.5°	4438.1	4416.9	4370.2	4412.5	4404.4
5°	4412.5	4395.8	4349.0	4382.7	4374.6
7.5°	4382.7	4357.5	4310.7	4344.9	4336.4
10°	4336.4	4306.6	4255.8	4289.5	4277.0
12.5°	4272.4	4247.2	4196.4	4217.5	4208.9
15°	4200.4	4175.2	4119.8	4136.9	4115.8
17.5°	4111.3	4086.1	4030.7	4051.9	4030.7
20°	4013.6	3988.4	3929.0	3941.6	3925.0
22.5°	3916.4	3878.1	3822.7	3822.7	3814.2
25°	3801.5	3767.8	3695.8	3703.9	3695.8
27.5°	3674.2	3644.5	3589.6	3576.9	3555.8
30°	3547.2	3513.0	3449.5	3437.0	3419.9
32.5°	3411.3	3386.1	3318.1	3292.5	3275.4
35°	3279.8	3237.6	3169.5	3143.9	3122.8
37.5°	3131.3	3093.1	3025.0	2995.4	2974.2
40°	2978.7	2944.5	2876.5	2838.7	2821.6
42.5°	2830.2	2796.0	2728.4	2685.7	2660.5
45°	2669.0	2639.3	2575.3	2529.0	2511.9
47.5°	2511.9	2482.1	2414.2	2367.4	2342.2
50°	2346.2	2325.1	2265.6	2206.2	2185.0
52.5°	2185.0	2155.4	2100.5	2053.6	2023.9
55°	2019.8	1994.2	1943.3	1892.5	1871.3
57.5°	1854.2	1833.0	1777.6	1726.8	1709.7
60°	1688.5	1671.9	1612.5	1565.7	1553.0
62.5°	1527.4	1497.6	1455.4	1413.1	1396.0
65°	1362.2	1336.5	1294.2	1255.9	1234.8
67.5°	1192.5	1170.9	1133.1	1103.4	1086.3
70°	1035.3	1018.2	980.0	950.3	933.7
72.5°	874.2	857.1	835.9	806.3	793.6
75°	712.6	704.5	682.9	657.7	666.2
77.5°	568.5	551.4	542.9	530.2	517.7
80°	424.5	420.0	411.5	398.9	390.3
82.5°	288.5	288.5	284.5	267.4	267.4
85°	173.8	169.7	165.7	152.6	148.6
87.5°	76.5	67.9	59.4	46.8	42.3
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	15.41	17.02	15.78	17.34	17.65	14.97	16.58	15.33	16.89	17.21
	3H	17.16	18.62	17.54	18.94	19.30	16.67	18.12	17.05	18.45	18.81
	4H	17.81	19.18	18.21	19.52	19.90	17.31	18.68	17.71	19.03	19.41
	6H	18.28	19.54	18.69	19.91	20.30	17.77	19.04	18.19	19.41	19.80
	8H	18.42	19.63	18.84	20.02	20.42	17.92	19.13	18.34	19.52	19.92
	12H	18.51	19.67	18.94	20.05	20.48	18.00	19.16	18.43	19.54	19.97
4H	2H	15.97	17.34	16.37	17.69	18.06	15.62	16.99	16.02	17.33	17.71
	3H	17.95	19.09	18.36	19.49	19.89	17.54	18.69	17.95	19.08	19.48
	4H	18.72	19.76	19.15	20.17	20.61	18.30	19.33	18.73	19.75	20.18
	6H	19.32	20.22	19.77	20.66	21.12	18.89	19.79	19.34	20.23	20.69
	8H	19.51	20.35	19.97	20.80	21.26	19.07	19.92	19.53	20.36	20.82
	12H	19.64	20.40	20.12	20.88	21.35	19.19	19.95	19.67	20.42	20.89
8H	4H	19.00	19.84	19.46	20.28	20.75	18.62	19.47	19.08	19.91	20.38
	6H	19.71	20.41	20.20	20.90	21.38	19.33	20.03	19.82	20.52	21.00
	8H	19.97	20.60	20.48	21.11	21.59	19.58	20.21	20.09	20.72	21.20
	12H	20.17	20.73	20.68	21.22	21.78	19.76	20.31	20.26	20.80	21.37
12H	4H	19.02	19.78	19.50	20.26	20.73	18.66	19.42	19.14	19.89	20.36
	6H	19.76	20.39	20.27	20.89	21.38	19.39	20.02	19.90	20.53	21.01
	8H	20.07	20.63	20.58	21.12	21.68	19.69	20.25	20.20	20.74	21.30