

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: P930401

Luminaire Tested: DFN2DS-HX4F0-120DS835-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930401
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-HX4F0-120DS835-FLL
Description: 4 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

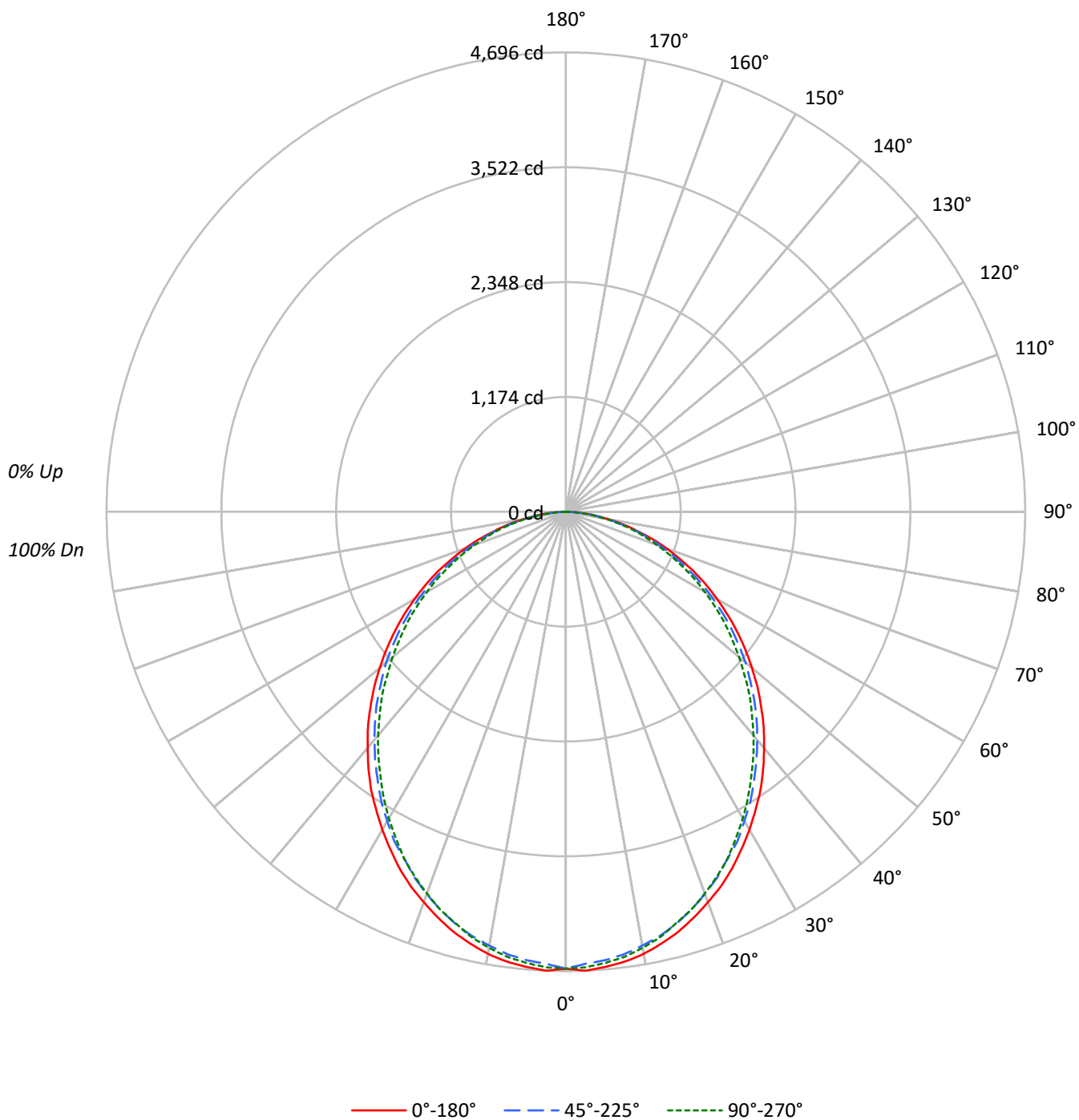
Lumens per Lamp: N/A
Luminaire Lumens: 11880.0 lumens
Efficiency: N/A
Efficacy: 90.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

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°	3472	3472	3472
5°	3485	3435	3455
10°	3465	3400	3417
15°	3422	3356	3353
20°	3361	3290	3287
25°	3300	3209	3209
30°	3223	3134	3107
35°	3150	3045	3000
40°	3060	2955	2898
45°	2970	2866	2795
50°	2872	2773	2675
55°	2771	2666	2567
60°	2657	2537	2444
65°	2536	2410	2299
70°	2382	2254	2148
75°	2166	2076	2025
80°	1923	1864	1768
85°	1569	1496	1341

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2970 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	439.5	3.7
10°-20°	1236.5	10.4
20°-30°	1817.2	15.3
30°-40°	2110.5	17.8
40°-50°	2107.9	17.7
50°-60°	1838.0	15.5
60°-70°	1358.7	11.4
70°-80°	768.7	6.5
80°-90°	202.9	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°	3493.1	29.4
0°-40°	5603.7	47.2
0°-60°	9549.6	80.4
0°-90°	11880.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11880.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4669	4669	4669	4669	4669	
5°	4669	4652	4602	4638	4629	443
15°	4445	4418	4360	4378	4355	1252
25°	4023	3987	3911	3920	3911	1851
35°	3471	3426	3354	3327	3304	2167
45°	2824	2793	2725	2676	2658	2180
55°	2137	2110	2056	2003	1980	1911
65°	1442	1414	1370	1329	1307	1425
75°	754	746	723	696	705	805
85°	184	180	175	162	157	216
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4669.3	4669.3	4669.3	4669.3	4669.3
2.5°	4696.4	4674.0	4624.5	4669.3	4660.7
5°	4669.3	4651.6	4602.1	4637.8	4629.2
7.5°	4637.8	4611.1	4561.6	4597.8	4588.8
10°	4588.8	4557.3	4503.5	4539.2	4525.9
12.5°	4521.1	4494.4	4440.6	4463.0	4453.9
15°	4444.9	4418.2	4359.6	4377.7	4355.3
17.5°	4350.6	4323.9	4265.3	4287.7	4265.3
20°	4247.2	4220.5	4157.7	4171.0	4153.4
22.5°	4144.3	4103.8	4045.2	4045.2	4036.2
25°	4022.8	3987.1	3910.9	3919.5	3910.9
27.5°	3888.0	3856.6	3798.5	3785.1	3762.8
30°	3753.7	3717.5	3650.3	3637.0	3618.9
32.5°	3609.8	3583.2	3511.2	3484.1	3466.0
35°	3470.7	3426.0	3354.0	3326.9	3304.5
37.5°	3313.5	3273.1	3201.1	3169.7	3147.3
40°	3152.1	3115.9	3043.9	3003.9	2985.8
42.5°	2994.9	2958.7	2887.2	2842.0	2815.3
45°	2824.3	2792.9	2725.2	2676.2	2658.1
47.5°	2658.1	2626.6	2554.7	2505.2	2478.5
50°	2482.8	2460.4	2397.5	2334.6	2312.2
52.5°	2312.2	2280.8	2222.7	2173.1	2141.7
55°	2137.4	2110.3	2056.4	2002.6	1980.2
57.5°	1962.1	1939.7	1881.1	1827.3	1809.2
60°	1786.8	1769.2	1706.3	1656.8	1643.4
62.5°	1616.3	1584.8	1540.1	1495.3	1477.2
65°	1441.5	1414.3	1369.5	1329.0	1306.7
67.5°	1261.9	1239.0	1199.0	1167.6	1149.5
70°	1095.6	1077.5	1037.0	1005.6	988.0
72.5°	925.1	907.0	884.6	853.2	839.8
75°	754.1	745.5	722.6	696.0	705.0
77.5°	601.6	583.5	574.5	561.1	547.8
80°	449.2	444.4	435.4	422.1	413.0
82.5°	305.3	305.3	301.1	283.0	283.0
85°	183.9	179.6	175.3	161.5	157.2
87.5°	81.0	71.9	62.9	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	15.97	17.53	17.85	15.16	16.77	15.53	17.09	17.40
	3H	17.36	18.81	17.73	19.14	19.50	16.87	18.32	17.24	18.65	19.01
	4H	18.00	19.37	18.40	19.72	20.10	17.51	18.88	17.91	19.23	19.60
	6H	18.47	19.74	18.88	20.11	20.50	17.97	19.24	18.38	19.60	20.00
	8H	18.62	19.83	19.04	20.22	20.61	18.11	19.32	18.54	19.71	20.11
	12H	18.71	19.87	19.14	20.25	20.68	18.19	19.35	18.62	19.74	20.16
4H	2H	16.17	17.54	16.57	17.88	18.26	15.81	17.18	16.21	17.53	17.91
	3H	18.14	19.29	18.55	19.69	20.09	17.74	18.88	18.15	19.28	19.68
	4H	18.92	19.95	19.35	20.37	20.80	18.50	19.53	18.93	19.94	20.38
	6H	19.52	20.42	19.97	20.86	21.32	19.08	19.99	19.54	20.43	20.88
	8H	19.70	20.55	20.17	20.99	21.46	19.27	20.11	19.73	20.56	21.02
	12H	19.84	20.60	20.32	21.07	21.54	19.38	20.14	19.87	20.62	21.09
8H	4H	19.19	20.04	19.65	20.48	20.95	18.82	19.66	19.28	20.11	20.57
	6H	19.91	20.61	20.40	21.10	21.57	19.53	20.23	20.02	20.72	21.19
	8H	20.17	20.80	20.68	21.30	21.79	19.77	20.41	20.28	20.91	21.40
	12H	20.37	20.92	20.87	21.41	21.98	19.95	20.51	20.46	21.00	21.56
12H	4H	19.22	19.98	19.70	20.45	20.92	18.85	19.61	19.33	20.09	20.56
	6H	19.95	20.58	20.46	21.09	21.58	19.58	20.22	20.09	20.72	21.21
	8H	20.27	20.82	20.77	21.31	21.88	19.89	20.45	20.40	20.94	21.50