

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: P930411

Luminaire Tested: DFN2DS-HX4F0-120DS935-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930411
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-HX4F0-120DS935-FLL
Description: 4 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

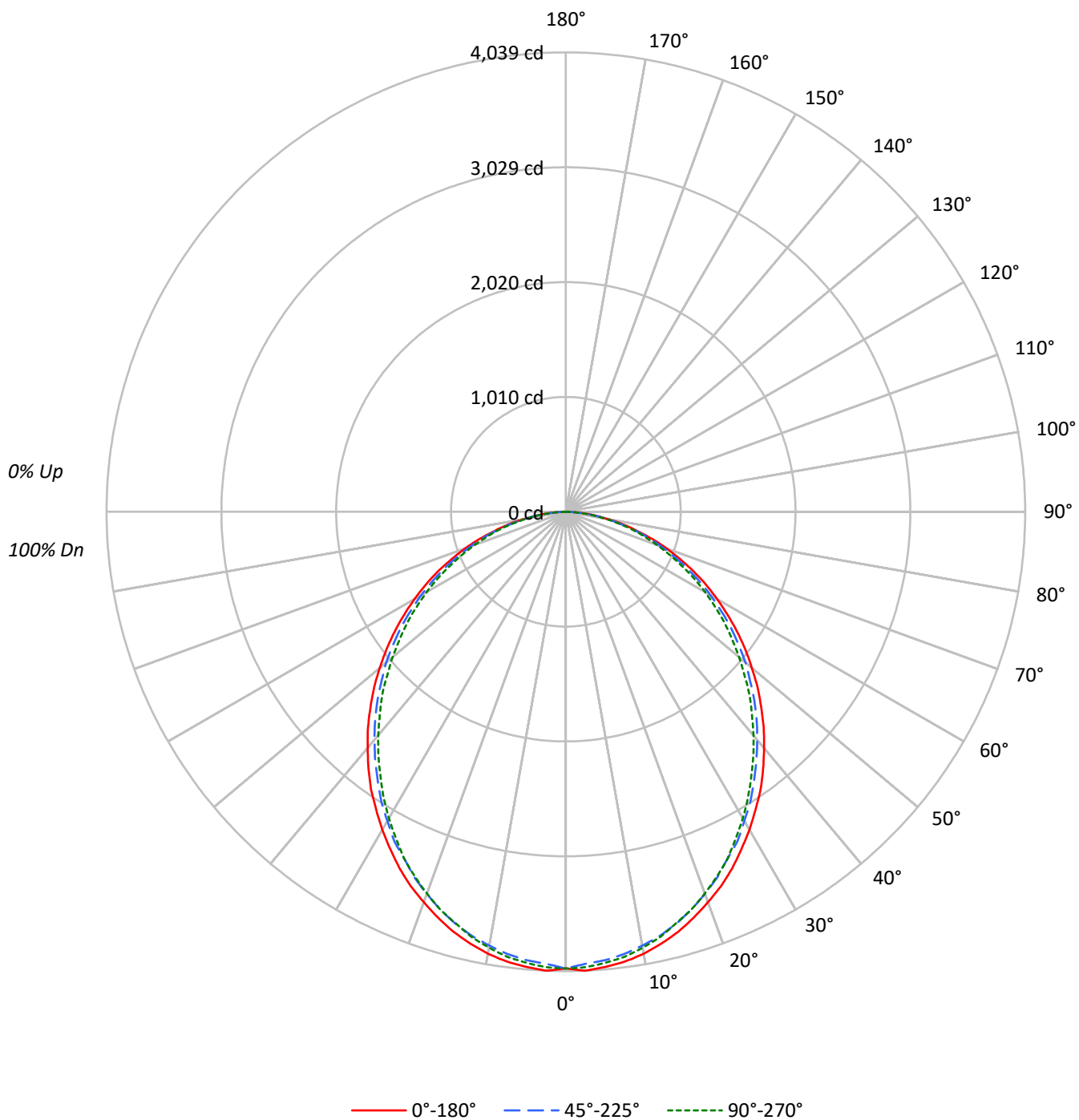
Lumens per Lamp: N/A
Luminaire Lumens: 10216.8 lumens
Efficiency: N/A
Efficacy: 78.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

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°	2986	2986	2986
5°	2997	2954	2972
10°	2980	2924	2939
15°	2943	2886	2883
20°	2890	2829	2826
25°	2838	2759	2759
30°	2772	2695	2672
35°	2709	2618	2580
40°	2631	2541	2492
45°	2554	2465	2404
50°	2470	2385	2300
55°	2383	2293	2208
60°	2285	2182	2102
65°	2181	2072	1977
70°	2048	1939	1847
75°	1863	1785	1742
80°	1654	1603	1521
85°	1350	1287	1153

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2554 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	377.9	3.7
10°-20°	1063.4	10.4
20°-30°	1562.8	15.3
30°-40°	1815.1	17.8
40°-50°	1812.8	17.7
50°-60°	1580.7	15.5
60°-70°	1168.5	11.4
70°-80°	661.1	6.5
80°-90°	174.5	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°	3004.1	29.4
0°-40°	4819.2	47.2
0°-60°	8212.7	80.4
0°-90°	10216.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10216.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4016	4016	4016	4016	4016	
5°	4016	4000	3958	3988	3981	381
15°	3823	3800	3749	3765	3746	1077
25°	3460	3429	3363	3371	3363	1592
35°	2985	2946	2884	2861	2842	1864
45°	2429	2402	2344	2302	2286	1875
55°	1838	1815	1768	1722	1703	1643
65°	1240	1216	1178	1143	1124	1226
75°	648	641	621	599	606	692
85°	158	154	151	139	135	186
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4015.6	4015.6	4015.6	4015.6	4015.6
2.5°	4038.9	4019.6	3977.1	4015.6	4008.2
5°	4015.6	4000.4	3957.8	3988.5	3981.1
7.5°	3988.5	3965.5	3923.0	3954.1	3946.4
10°	3946.4	3919.3	3873.0	3903.7	3892.3
12.5°	3888.1	3865.2	3818.9	3838.2	3830.4
15°	3822.6	3799.7	3749.3	3764.8	3745.6
17.5°	3741.5	3718.6	3668.2	3687.4	3668.2
20°	3652.6	3629.6	3575.6	3587.1	3571.9
22.5°	3564.1	3529.3	3478.9	3478.9	3471.1
25°	3459.6	3428.9	3363.4	3370.8	3363.4
27.5°	3343.7	3316.7	3266.7	3255.2	3236.0
30°	3228.2	3197.0	3139.3	3127.8	3112.3
32.5°	3104.4	3081.6	3019.6	2996.3	2980.8
35°	2984.8	2946.4	2884.4	2861.1	2841.9
37.5°	2849.6	2814.9	2752.9	2725.9	2706.7
40°	2710.8	2679.7	2617.8	2583.4	2567.8
42.5°	2575.6	2544.5	2483.0	2444.1	2421.2
45°	2428.9	2401.9	2343.7	2301.5	2286.0
47.5°	2286.0	2258.9	2197.0	2154.5	2131.5
50°	2135.2	2115.9	2061.8	2007.8	1988.5
52.5°	1988.5	1961.5	1911.5	1868.9	1841.9
55°	1838.2	1814.9	1768.5	1722.2	1703.0
57.5°	1687.4	1668.1	1617.7	1571.5	1555.9
60°	1536.6	1521.5	1467.4	1424.8	1413.3
62.5°	1390.0	1362.9	1324.5	1286.0	1270.4
65°	1239.7	1216.3	1177.8	1142.9	1123.8
67.5°	1085.2	1065.5	1031.1	1004.1	988.6
70°	942.2	926.6	891.8	864.8	849.7
72.5°	795.6	780.0	760.8	733.8	722.2
75°	648.5	641.1	621.4	598.6	606.3
77.5°	517.4	501.8	494.1	482.5	471.1
80°	386.3	382.2	374.4	363.0	355.2
82.5°	262.6	262.6	258.9	243.4	243.4
85°	158.2	154.5	150.8	138.9	135.2
87.5°	69.7	61.8	54.1	42.6	38.5
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	15.08	16.69	15.45	17.01	17.32	14.64	16.25	15.00	16.56	16.88
	3H	16.83	18.29	17.21	18.61	18.97	16.34	17.80	16.72	18.12	18.48
	4H	17.48	18.85	17.88	19.20	19.57	16.98	18.35	17.38	18.70	19.08
	6H	17.95	19.22	18.36	19.58	19.97	17.45	18.72	17.86	19.08	19.47
	8H	18.09	19.30	18.52	19.69	20.09	17.59	18.80	18.01	19.19	19.59
	12H	18.18	19.34	18.61	19.72	20.15	17.67	18.83	18.10	19.21	19.64
4H	2H	15.64	17.01	16.04	17.36	17.74	15.29	16.66	15.69	17.01	17.38
	3H	17.62	18.76	18.03	19.16	19.56	17.21	18.36	17.62	18.76	19.16
	4H	18.39	19.43	18.83	19.84	20.28	17.97	19.01	18.40	19.42	19.86
	6H	18.99	19.90	19.45	20.34	20.79	18.56	19.46	19.01	19.90	20.36
	8H	19.18	20.03	19.64	20.47	20.94	18.74	19.59	19.20	20.03	20.50
	12H	19.31	20.07	19.79	20.55	21.02	18.86	19.62	19.34	20.10	20.57
8H	4H	18.67	19.51	19.13	19.96	20.42	18.29	19.14	18.76	19.58	20.05
	6H	19.38	20.09	19.88	20.57	21.05	19.00	19.70	19.50	20.19	20.67
	8H	19.64	20.27	20.15	20.78	21.27	19.25	19.88	19.76	20.39	20.87
	12H	19.84	20.40	20.35	20.89	21.45	19.43	19.99	19.94	20.48	21.04
12H	4H	18.69	19.45	19.17	19.93	20.40	18.33	19.09	18.81	19.57	20.04
	6H	19.43	20.06	19.94	20.57	21.05	19.06	19.69	19.57	20.20	20.68
	8H	19.74	20.30	20.25	20.79	21.35	19.36	19.92	19.87	20.41	20.97