

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: P930397

Luminaire Tested: DFN2DS-HX4F0-110DS950-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930397
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-HX4F0-110DS950-FLL
Description: 4 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

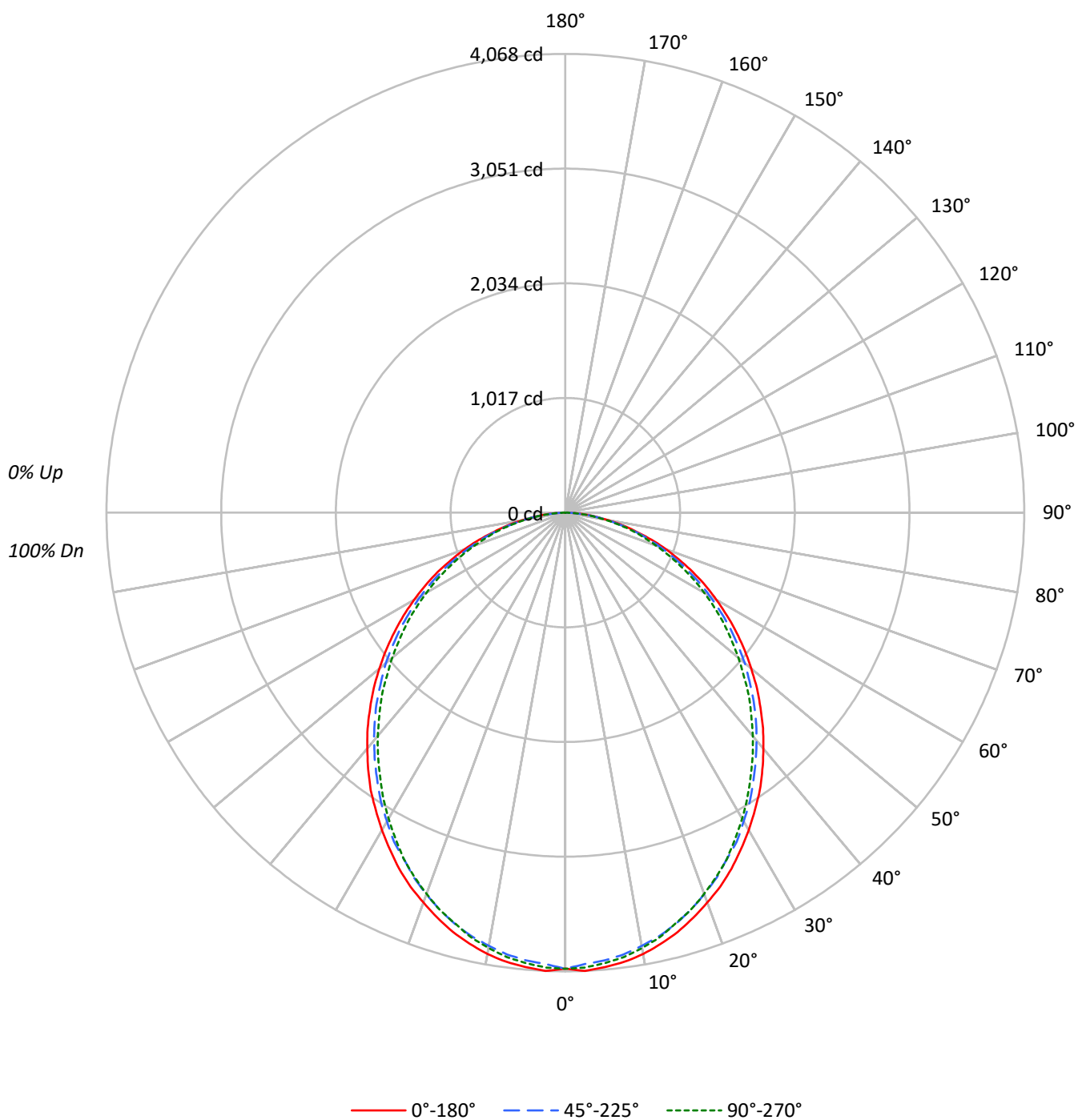
Lumens per Lamp: N/A
Luminaire Lumens: 10291.0 lumens
Efficiency: N/A
Efficacy: 87.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 117.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9967
Total Harmonic Distortion (THDi): 0.063
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°	3008	3008	3008
5°	3019	2976	2993
10°	3001	2945	2960
15°	2964	2907	2904
20°	2911	2850	2847
25°	2859	2779	2779
30°	2792	2715	2692
35°	2729	2637	2598
40°	2650	2559	2511
45°	2573	2482	2421
50°	2488	2402	2317
55°	2400	2309	2224
60°	2302	2198	2117
65°	2197	2087	1991
70°	2063	1953	1861
75°	1877	1798	1755
80°	1667	1615	1532
85°	1359	1296	1162

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2573 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	380.7	3.7
10°-20°	1071.1	10.4
20°-30°	1574.1	15.3
30°-40°	1828.2	17.8
40°-50°	1826.0	17.7
50°-60°	1592.2	15.5
60°-70°	1177.0	11.4
70°-80°	665.9	6.5
80°-90°	175.8	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°	3025.9	29.4
0°-40°	4854.2	47.2
0°-60°	8272.4	80.4
0°-90°	10291.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10291.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4045	4045	4045	4045	4045	
5°	4045	4030	3987	4018	4010	384
15°	3850	3827	3776	3792	3773	1084
25°	3485	3454	3388	3395	3388	1604
35°	3006	2968	2905	2882	2862	1877
45°	2447	2419	2361	2318	2303	1888
55°	1852	1828	1781	1735	1715	1655
65°	1249	1225	1186	1151	1132	1235
75°	653	646	626	603	611	697
85°	159	156	152	140	136	187
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4044.8	4044.8	4044.8	4044.8	4044.8
2.5°	4068.2	4048.9	4005.9	4044.8	4037.3
5°	4044.8	4029.5	3986.6	4017.5	4010.1
7.5°	4017.5	3994.4	3951.5	3982.9	3975.0
10°	3975.0	3947.7	3901.1	3932.1	3920.5
12.5°	3916.5	3893.3	3846.7	3866.1	3858.2
15°	3850.4	3827.2	3776.5	3792.2	3772.8
17.5°	3768.7	3745.6	3694.9	3714.2	3694.9
20°	3679.2	3656.0	3601.6	3613.1	3597.9
22.5°	3590.1	3554.9	3504.2	3504.2	3496.3
25°	3484.8	3453.9	3387.8	3395.3	3387.8
27.5°	3368.0	3340.8	3290.4	3278.9	3259.5
30°	3251.7	3220.3	3162.1	3150.5	3134.8
32.5°	3127.0	3103.9	3041.6	3018.0	3002.4
35°	3006.5	2967.8	2905.4	2881.9	2862.5
37.5°	2870.3	2835.3	2773.0	2745.7	2726.3
40°	2730.5	2699.1	2636.8	2602.2	2586.5
42.5°	2594.3	2562.9	2501.0	2461.8	2438.8
45°	2446.6	2419.3	2360.7	2318.3	2302.6
47.5°	2302.6	2275.4	2213.0	2170.1	2146.9
50°	2150.7	2131.4	2076.8	2022.4	2003.0
52.5°	2003.0	1975.7	1925.4	1882.4	1855.2
55°	1851.5	1828.0	1781.4	1734.7	1715.4
57.5°	1699.7	1680.3	1629.6	1582.9	1567.2
60°	1547.8	1532.6	1478.1	1435.2	1423.6
62.5°	1400.1	1372.9	1334.1	1295.3	1279.6
65°	1248.6	1225.1	1186.4	1151.3	1131.9
67.5°	1093.1	1073.3	1038.6	1011.4	995.7
70°	949.1	933.4	898.3	871.1	855.8
72.5°	801.4	785.7	766.3	739.1	727.5
75°	653.2	645.8	626.0	602.9	610.8
77.5°	521.2	505.5	497.6	486.1	474.6
80°	389.2	385.0	377.1	365.6	357.8
82.5°	264.5	264.5	260.8	245.1	245.1
85°	159.3	155.5	151.9	139.9	136.2
87.5°	70.1	62.3	54.4	42.9	38.7
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	15.11	16.72	15.47	17.03	17.35	14.66	16.27	15.03	16.59	16.90
	3H	16.86	18.31	17.24	18.64	19.00	16.37	17.82	16.74	18.15	18.51
	4H	17.50	18.87	17.90	19.22	19.60	17.01	18.38	17.41	18.73	19.10
	6H	17.97	19.24	18.38	19.61	20.00	17.47	18.74	17.88	19.11	19.50
	8H	18.12	19.33	18.54	19.72	20.12	17.61	18.82	18.04	19.21	19.61
	12H	18.21	19.37	18.64	19.75	20.18	17.70	18.86	18.12	19.24	19.67
4H	2H	15.67	17.04	16.07	17.39	17.76	15.32	16.68	15.71	17.03	17.41
	3H	17.64	18.79	18.05	19.19	19.59	17.24	18.38	17.65	18.78	19.18
	4H	18.42	19.46	18.85	19.87	20.31	18.00	19.03	18.43	19.45	19.88
	6H	19.02	19.92	19.47	20.36	20.82	18.58	19.49	19.04	19.93	20.39
	8H	19.21	20.05	19.67	20.50	20.96	18.77	19.61	19.23	20.06	20.52
	12H	19.34	20.10	19.82	20.57	21.04	18.89	19.65	19.37	20.12	20.59
8H	4H	18.69	19.54	19.15	19.98	20.45	18.32	19.17	18.78	19.61	20.07
	6H	19.41	20.11	19.90	20.60	21.07	19.03	19.73	19.52	20.22	20.69
	8H	19.67	20.30	20.18	20.80	21.29	19.28	19.91	19.79	20.41	20.90
	12H	19.87	20.42	20.37	20.92	21.48	19.45	20.01	19.96	20.50	21.06
12H	4H	18.72	19.48	19.20	19.96	20.42	18.36	19.11	18.84	19.59	20.06
	6H	19.45	20.09	19.96	20.59	21.08	19.08	19.72	19.59	20.22	20.71
	8H	19.77	20.33	20.27	20.82	21.38	19.39	19.95	19.90	20.44	21.00