

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: P930125

Luminaire Tested: DFN2DS-HX2F0-060DS940-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930125
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-HX2F0-060DS940-FLL
Description: 2 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

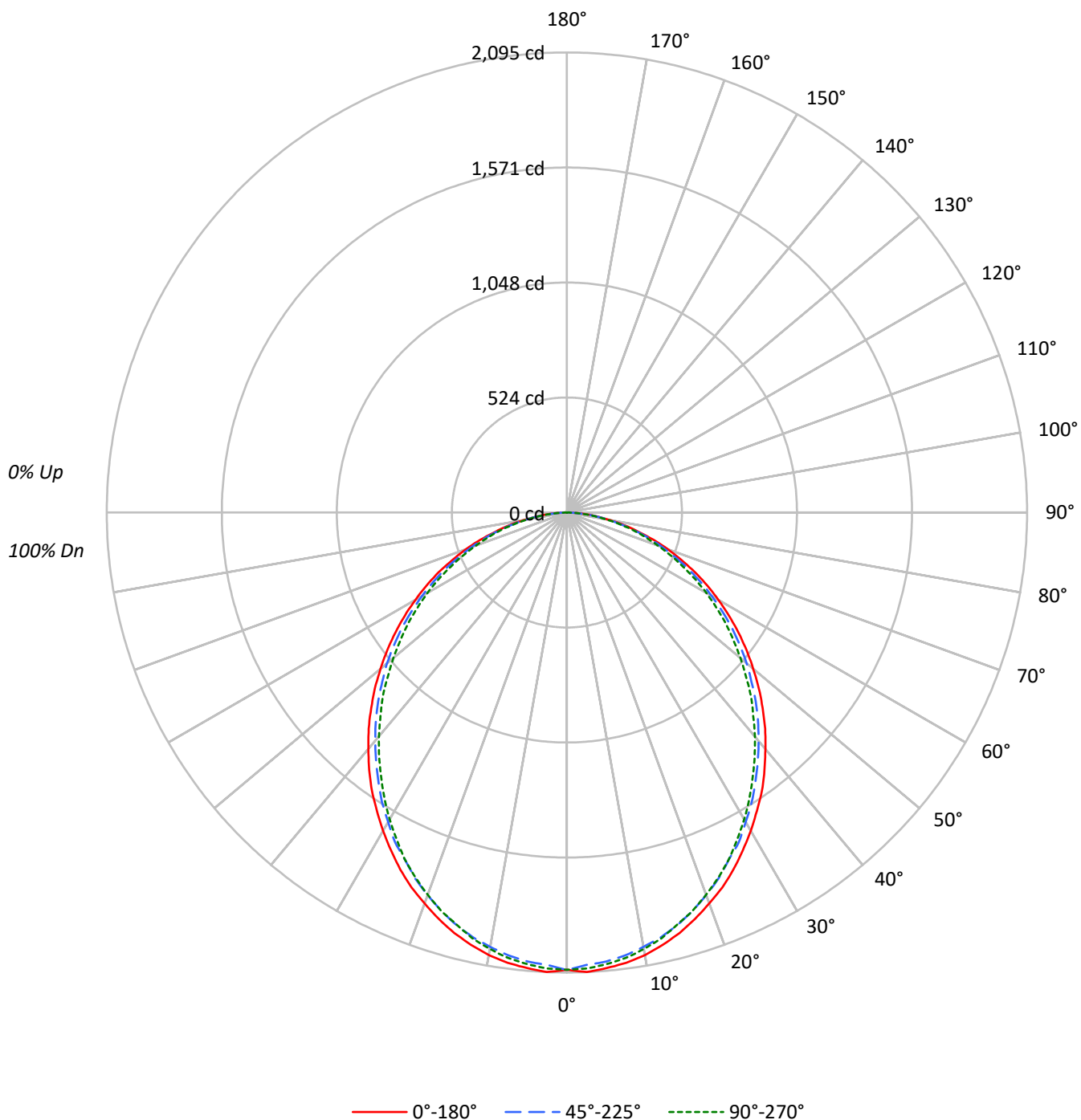
Lumens per Lamp: N/A
Luminaire Lumens: 5298.4 lumens
Efficiency: N/A
Efficacy: 85.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 2.3' x L: 1.99' x H: 0')
CIE Type: Direct

Input Watts (W): 61.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9971
Total Harmonic Distortion (THDi): 0.049
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			0
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50	30	10	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90	88	86	84
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71	66	62	60
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63	58	54	51
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57	51	47	45
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52	46	41	39
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44	38	33	31
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40	34	30	28
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37	32	27	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4907	4907	4907
5°	4925	4854	4883
10°	4896	4805	4829
15°	4836	4743	4738
20°	4750	4649	4645
25°	4664	4534	4534
30°	4555	4429	4391
35°	4453	4303	4239
40°	4324	4176	4096
45°	4197	4050	3950
50°	4059	3920	3780
55°	3916	3768	3628
60°	3755	3587	3454
65°	3584	3405	3249
70°	3366	3186	3035
75°	3061	2934	2862
80°	2718	2635	2499
85°	2217	2111	1895

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4197 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	196.0	3.7
10°-20°	551.5	10.4
20°-30°	810.5	15.3
30°-40°	941.3	17.8
40°-50°	940.1	17.7
50°-60°	819.8	15.5
60°-70°	606.0	11.4
70°-80°	342.9	6.5
80°-90°	90.5	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°	1558.0	29.4
0°-40°	2499.3	47.2
0°-60°	4259.1	80.4
0°-90°	5298.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5298.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2082	2082	2082	2082	2082	
5°	2082	2075	2052	2068	2065	198
15°	1982	1970	1944	1952	1942	558
25°	1794	1778	1744	1748	1744	826
35°	1548	1528	1496	1484	1474	967
45°	1260	1246	1215	1194	1186	972
55°	953	941	917	893	883	852
65°	643	631	611	593	583	636
75°	336	332	322	310	314	359
85°	82	80	78	72	70	96
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2082.5	2082.5	2082.5	2082.5	2082.5
2.5°	2094.6	2084.6	2062.5	2082.5	2078.6
5°	2082.5	2074.6	2052.5	2068.5	2064.6
7.5°	2068.5	2056.6	2034.5	2050.6	2046.6
10°	2046.6	2032.6	2008.5	2024.5	2018.5
12.5°	2016.5	2004.5	1980.5	1990.5	1986.5
15°	1982.4	1970.5	1944.4	1952.5	1942.5
17.5°	1940.4	1928.5	1902.4	1912.3	1902.4
20°	1894.3	1882.4	1854.3	1860.3	1852.4
22.5°	1848.4	1830.3	1804.2	1804.2	1800.1
25°	1794.2	1778.3	1744.2	1748.1	1744.2
27.5°	1734.0	1720.0	1694.1	1688.2	1678.2
30°	1674.2	1658.0	1628.1	1622.1	1614.0
32.5°	1610.0	1598.1	1566.0	1553.9	1545.8
35°	1548.0	1528.0	1495.9	1483.8	1473.8
37.5°	1477.9	1459.8	1427.7	1413.6	1403.7
40°	1405.8	1389.6	1357.6	1339.8	1331.7
42.5°	1335.7	1319.5	1287.7	1267.5	1255.6
45°	1259.7	1245.6	1215.4	1193.6	1185.5
47.5°	1185.5	1171.5	1139.4	1117.3	1105.4
50°	1107.3	1097.3	1069.3	1041.2	1031.2
52.5°	1031.2	1017.2	991.3	969.2	955.2
55°	953.3	941.1	917.2	893.2	883.2
57.5°	875.1	865.2	839.0	815.0	806.9
60°	796.9	789.1	761.1	738.9	733.0
62.5°	720.8	706.8	686.8	666.9	658.8
65°	642.9	630.8	610.8	592.7	582.7
67.5°	562.8	552.6	534.8	520.7	512.6
70°	488.6	480.6	462.5	448.5	440.6
72.5°	412.6	404.5	394.5	380.5	374.6
75°	336.3	332.5	322.3	310.4	314.4
77.5°	268.3	260.3	256.2	250.3	244.3
80°	200.3	198.2	194.2	188.2	184.2
82.5°	136.2	136.2	134.2	126.2	126.2
85°	82.0	80.1	78.1	72.0	70.1
87.5°	36.1	32.1	28.0	22.1	20.0
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	16.81	18.42	17.17	18.73	19.05	16.36	17.98	16.73	18.29	18.60
	3H	18.56	20.01	18.94	20.34	20.70	18.07	19.52	18.44	19.85	20.21
	4H	19.21	20.57	19.60	20.92	21.30	18.71	20.08	19.11	20.43	20.80
	6H	19.67	20.94	20.09	21.31	21.70	19.17	20.44	19.58	20.81	21.20
	8H	19.82	21.03	20.24	21.42	21.82	19.31	20.53	19.74	20.91	21.31
	12H	19.91	21.07	20.34	21.45	21.88	19.40	20.56	19.82	20.94	21.37
4H	2H	17.37	18.74	17.77	19.09	19.46	17.02	18.39	17.41	18.73	19.11
	3H	19.34	20.49	19.75	20.89	21.29	18.94	20.08	19.35	20.48	20.88
	4H	20.12	21.16	20.55	21.57	22.01	19.70	20.73	20.13	21.15	21.58
	6H	20.72	21.62	21.17	22.06	22.52	20.28	21.19	20.74	21.63	22.09
	8H	20.91	21.75	21.37	22.20	22.66	20.47	21.32	20.93	21.76	22.22
	12H	21.04	21.80	21.52	22.27	22.74	20.59	21.35	21.07	21.82	22.29
8H	4H	20.39	21.24	20.86	21.68	22.15	20.02	20.87	20.48	21.31	21.77
	6H	21.11	21.81	21.60	22.30	22.78	20.73	21.43	21.22	21.92	22.39
	8H	21.37	22.00	21.88	22.51	22.99	20.98	21.61	21.49	22.11	22.60
	12H	21.57	22.13	22.07	22.62	23.18	21.15	21.71	21.66	22.20	22.76
12H	4H	20.42	21.18	20.90	21.66	22.13	20.06	20.82	20.54	21.29	21.76
	6H	21.15	21.79	21.66	22.29	22.78	20.78	21.42	21.29	21.92	22.41
	8H	21.47	22.03	21.97	22.52	23.08	21.09	21.65	21.60	22.14	22.70