

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: P930053

Luminaire Tested: DFN2DS-HX2F0-020DS940-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930053
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-HX2F0-020DS940-FLL
Description: 2 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

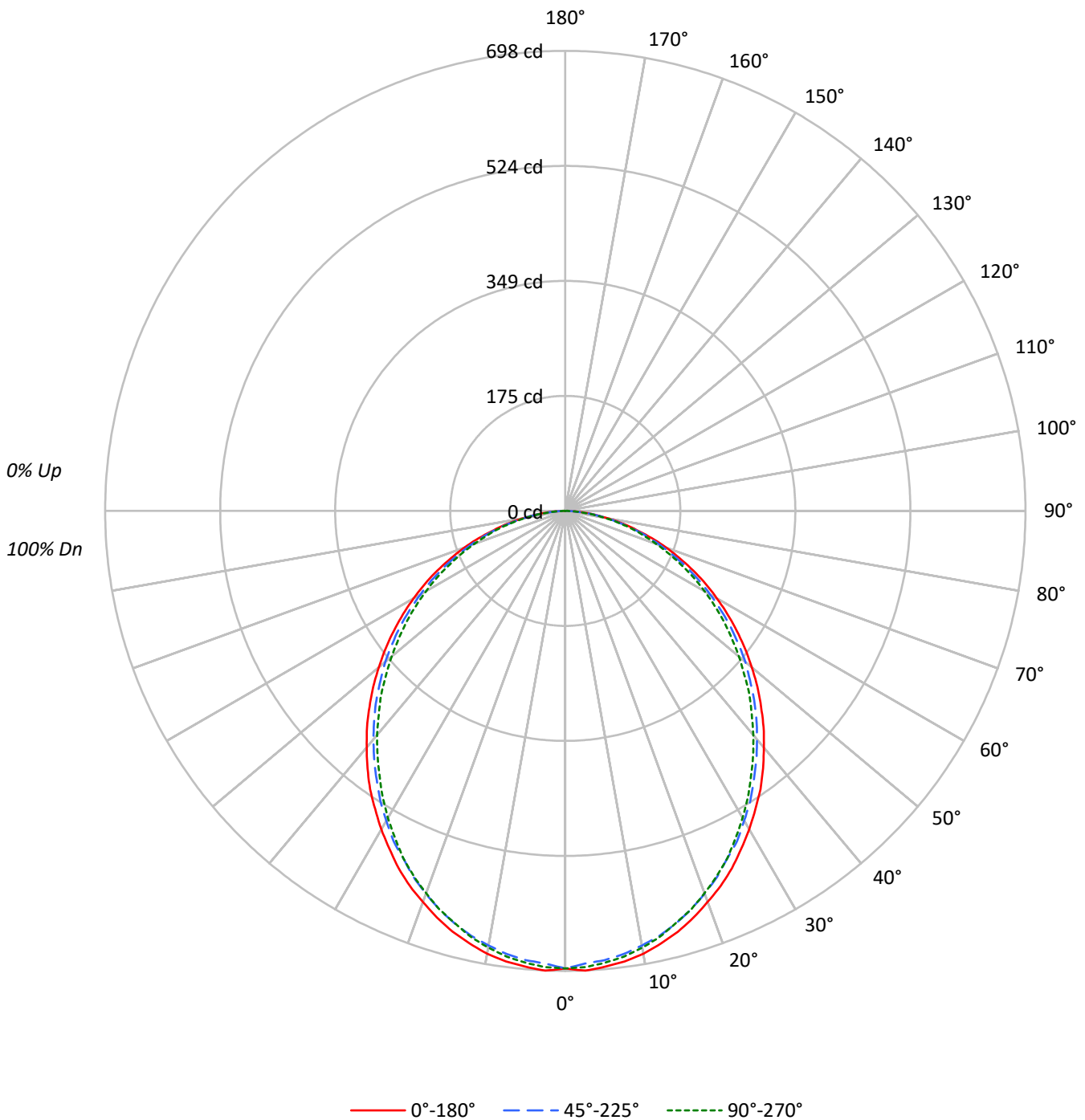
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1766.2 lumens
Efficiency: N/A
Efficacy: 100.3 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): 17.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
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	50	30	10	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	86	86	86	84
2	99	91	85	79	97	89	83	78	86	81	76	83	78	74	80	76	73	73	73	73	71
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	71	66	62	62	62	62	60
4	83	71	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	54	54	54	51
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	47	47	47	47	45
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	41	41	41	39
7	66	52	44	38	64	52	43	38	50	43	37	49	42	37	47	41	37	37	37	37	35
8	61	48	40	34	60	47	39	34	46	39	33	45	38	33	44	38	33	33	33	33	31
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	30	30	30	28
10	54	41	33	28	53	40	33	28	39	32	27	38	32	27	37	32	27	27	27	27	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1636	1636	1636
5°	1642	1618	1628
10°	1632	1602	1610
15°	1612	1581	1579
20°	1583	1550	1548
25°	1555	1511	1511
30°	1518	1476	1464
35°	1484	1434	1413
40°	1441	1392	1365
45°	1399	1350	1317
50°	1353	1306	1260
55°	1305	1256	1209
60°	1252	1196	1151
65°	1195	1135	1083
70°	1122	1062	1012
75°	1020	978	954
80°	906	879	833
85°	738	703	633

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1399 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	65.3	3.7
10°-20°	183.8	10.4
20°-30°	270.2	15.3
30°-40°	313.8	17.8
40°-50°	313.4	17.7
50°-60°	273.2	15.5
60°-70°	202.0	11.4
70°-80°	114.3	6.5
80°-90°	30.2	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°	519.3	29.4
0°-40°	833.1	47.2
0°-60°	1419.7	80.4
0°-90°	1766.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1766.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	694	694	694	694	694	
5°	694	692	684	690	688	66
15°	661	657	648	651	648	186
25°	598	593	581	583	581	275
35°	516	509	499	495	491	322
45°	420	415	405	398	395	324
55°	318	314	306	298	294	284
65°	214	210	204	198	194	212
75°	112	111	107	104	105	120
85°	27	27	26	24	23	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	694.2	694.2	694.2	694.2	694.2
2.5°	698.2	694.9	687.5	694.2	692.9
5°	694.2	691.6	684.2	689.5	688.2
7.5°	689.5	685.5	678.2	683.5	682.2
10°	682.2	677.6	669.5	674.8	672.8
12.5°	672.1	668.2	660.2	663.5	662.1
15°	660.8	656.9	648.1	650.8	647.5
17.5°	646.8	642.9	634.1	637.4	634.1
20°	631.4	627.4	618.1	620.1	617.4
22.5°	616.1	610.1	601.4	601.4	600.0
25°	598.1	592.7	581.4	582.7	581.4
27.5°	578.0	573.4	564.7	562.8	559.4
30°	558.0	552.7	542.7	540.7	538.0
32.5°	536.6	532.7	522.0	518.0	515.3
35°	516.0	509.3	498.6	494.6	491.2
37.5°	492.7	486.6	475.9	471.2	467.9
40°	468.6	463.2	452.5	446.6	443.9
42.5°	445.2	439.8	429.2	422.5	418.5
45°	419.9	415.2	405.1	397.8	395.2
47.5°	395.2	390.5	379.8	372.4	368.5
50°	369.1	365.8	356.4	347.1	343.8
52.5°	343.8	339.0	330.4	323.1	318.4
55°	317.7	313.7	305.7	297.7	294.4
57.5°	291.7	288.4	279.6	271.7	268.9
60°	265.6	263.1	253.7	246.3	244.3
62.5°	240.3	235.6	229.0	222.3	219.6
65°	214.3	210.2	203.6	197.6	194.3
67.5°	187.6	184.2	178.2	173.6	170.9
70°	162.9	160.2	154.1	149.5	146.9
72.5°	137.5	134.9	131.5	126.8	124.9
75°	112.1	110.9	107.4	103.5	104.8
77.5°	89.5	86.8	85.4	83.4	81.4
80°	66.8	66.1	64.8	62.7	61.4
82.5°	45.4	45.4	44.8	42.1	42.1
85°	27.3	26.7	26.0	24.0	23.4
87.5°	12.0	10.7	9.4	7.4	6.7
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	12.99	14.60	13.36	14.92	15.23	12.55	14.16	12.91	14.47	14.79
	3H	14.74	16.20	15.12	16.52	16.88	14.25	15.71	14.63	16.03	16.39
	4H	15.39	16.76	15.79	17.11	17.48	14.89	16.26	15.29	16.61	16.99
	6H	15.86	17.13	16.27	17.49	17.88	15.36	16.62	15.77	16.99	17.38
	8H	16.00	17.21	16.43	17.60	18.00	15.50	16.71	15.92	17.10	17.50
	12H	16.09	17.25	16.52	17.63	18.06	15.58	16.74	16.01	17.12	17.55
4H	2H	13.55	14.92	13.95	15.27	15.65	13.20	14.57	13.60	14.92	15.29
	3H	15.53	16.67	15.94	17.07	17.47	15.12	16.27	15.53	16.66	17.06
	4H	16.30	17.34	16.74	17.75	18.19	15.88	16.92	16.31	17.33	17.77
	6H	16.90	17.81	17.36	18.25	18.70	16.47	17.37	16.92	17.81	18.27
	8H	17.09	17.94	17.55	18.38	18.85	16.65	17.50	17.11	17.94	18.41
	12H	17.22	17.98	17.70	18.46	18.93	16.77	17.53	17.25	18.01	18.48
8H	4H	16.58	17.42	17.04	17.87	18.33	16.20	17.05	16.66	17.49	17.96
	6H	17.29	18.00	17.79	18.48	18.96	16.91	17.61	17.40	18.10	18.58
	8H	17.55	18.18	18.06	18.69	19.18	17.16	17.79	17.67	18.30	18.78
	12H	17.75	18.31	18.26	18.80	19.36	17.34	17.90	17.84	18.39	18.95
12H	4H	16.60	17.36	17.08	17.84	18.31	16.24	17.00	16.72	17.47	17.94
	6H	17.34	17.97	17.85	18.48	18.96	16.97	17.60	17.48	18.11	18.59
	8H	17.65	18.21	18.16	18.70	19.26	17.27	17.83	17.78	18.32	18.88