

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: P930044

Luminaire Tested: DFN2DS-HX2F0-020DS840-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930044
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-HX2F0-020DS840-RLL
Description: 2 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

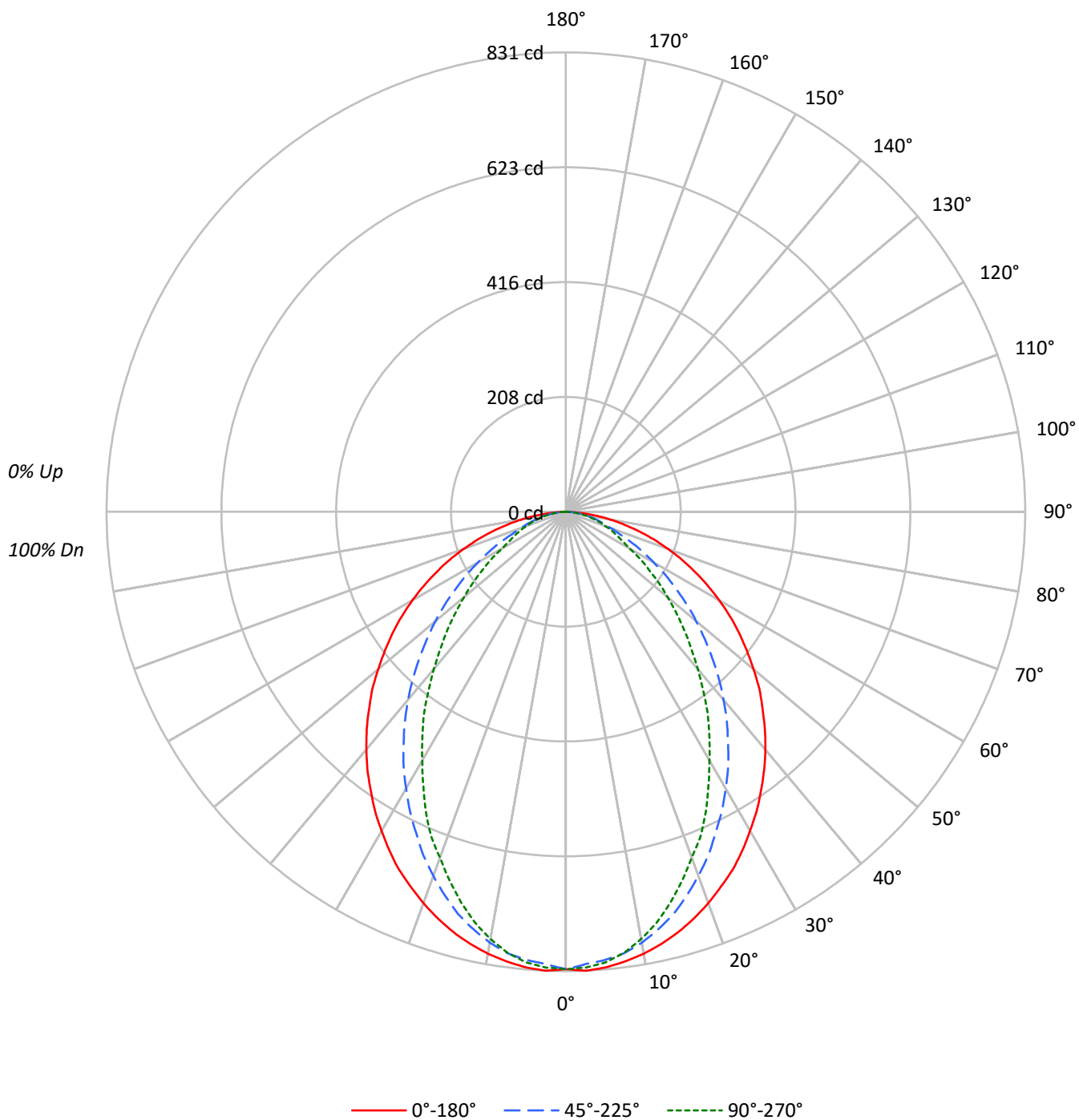
Lumens per Lamp: N/A
Luminaire Lumens: 1701.7 lumens
Efficiency: N/A
Efficacy: 96.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 2.3' x L: 1.99' x H: 0')
CIE Type: Direct

Input Watts (W): 17.6
Input Voltage (V):
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
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	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1949	1949	1949
5°	1957	1925	1936
10°	1942	1894	1878
15°	1920	1837	1785
20°	1889	1757	1669
25°	1857	1666	1557
30°	1813	1573	1414
35°	1770	1471	1288
40°	1727	1366	1142
45°	1677	1248	1010
50°	1625	1128	881
55°	1572	999	757
60°	1510	865	628
65°	1441	726	572
70°	1356	598	526
75°	1254	545	492
80°	1107	487	446
85°	868	384	384

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1677 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.5	4.6
10°-20°	212.9	12.5
20°-30°	298.9	17.6
30°-40°	325.8	19.1
40°-50°	299.4	17.6
50°-60°	235.2	13.8
60°-70°	153.1	9.0
70°-80°	78.8	4.6
80°-90°	20.1	1.2
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°	589.3	34.6
0°-40°	915.1	53.8
0°-60°	1449.7	85.2
0°-90°	1701.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1701.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	827	827	827	827	827	
5°	827	824	814	821	818	78
15°	787	779	753	739	732	222
25°	714	690	641	610	599	329
35°	616	577	512	464	448	385
45°	503	453	374	321	303	389
55°	383	324	243	198	184	342
65°	258	198	130	105	103	256
75°	138	85	60	55	54	146
85°	32	16	14	14	14	39
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	827.4	827.4	827.4	827.4	827.4
2.5°	831.1	827.4	819.1	826.7	825.2
5°	827.4	823.7	813.9	820.7	818.4
7.5°	820.7	816.2	805.7	808.7	804.9
10°	811.7	806.4	791.5	789.2	784.8
12.5°	800.5	793.7	773.5	769.1	760.8
15°	787.0	778.7	753.3	739.0	731.6
17.5°	771.3	759.3	727.8	711.3	699.4
20°	753.3	738.2	700.9	682.2	665.7
22.5°	733.8	716.6	673.2	647.7	636.5
25°	714.4	690.4	640.9	610.3	599.0
27.5°	691.2	665.7	611.0	575.8	558.6
30°	666.5	637.9	578.1	539.9	519.6
32.5°	642.4	608.0	546.6	501.7	483.0
35°	615.5	577.4	511.5	464.3	447.7
37.5°	589.3	548.0	478.5	426.8	408.1
40°	561.6	516.7	444.0	390.9	371.4
42.5°	533.1	485.3	409.6	354.2	335.5
45°	503.2	453.0	374.5	321.2	303.2
47.5°	474.8	421.6	340.7	287.5	271.1
50°	443.3	390.2	307.8	256.1	240.4
52.5°	412.5	356.4	276.3	226.9	212.7
55°	382.6	324.2	243.3	198.5	184.2
57.5°	352.0	292.0	214.2	172.3	160.3
60°	320.5	260.6	183.5	145.3	133.3
62.5°	289.8	229.9	157.3	121.3	115.3
65°	258.4	197.7	130.3	104.9	102.6
67.5°	228.4	167.7	104.9	92.1	89.9
70°	196.9	138.5	86.8	79.4	76.4
72.5°	167.0	111.5	72.6	66.7	65.2
75°	137.7	85.3	59.9	54.7	54.0
77.5°	108.6	60.7	47.1	44.1	42.6
80°	81.6	43.4	35.9	32.9	32.9
82.5°	56.9	29.2	24.7	23.2	23.2
85°	32.1	16.4	14.2	14.2	14.2
87.5°	12.0	6.0	6.0	5.2	5.2
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	13.55	15.08	13.92	15.39	15.70	9.52	11.04	9.88	11.35	11.67
	3H	15.32	16.68	15.70	17.01	17.37	10.78	12.15	11.16	12.48	12.84
	4H	15.98	17.27	16.38	17.61	17.99	11.28	12.57	11.68	12.91	13.29
	6H	16.47	17.66	16.89	18.02	18.42	11.66	12.85	12.08	13.21	13.61
	8H	16.64	17.77	17.07	18.16	18.56	11.79	12.91	12.21	13.30	13.71
	12H	16.74	17.82	17.17	18.20	18.63	11.87	12.95	12.30	13.33	13.76
4H	2H	13.66	14.94	14.06	15.29	15.67	10.21	11.49	10.61	11.84	12.22
	3H	15.59	16.65	16.00	17.05	17.45	11.66	12.72	12.07	13.12	13.52
	4H	16.34	17.30	16.77	17.71	18.15	12.26	13.21	12.69	13.63	14.07
	6H	16.93	17.76	17.39	18.21	18.67	12.74	13.57	13.20	14.02	14.48
	8H	17.15	17.92	17.61	18.37	18.84	12.90	13.68	13.37	14.12	14.59
	12H	17.30	17.99	17.78	18.47	18.94	13.02	13.71	13.50	14.19	14.66
8H	4H	16.36	17.14	16.83	17.59	18.05	12.61	13.39	13.07	13.83	14.30
	6H	17.00	17.64	17.50	18.14	18.61	13.19	13.84	13.69	14.33	14.80
	8H	17.25	17.83	17.77	18.34	18.83	13.41	13.99	13.93	14.50	14.99
	12H	17.46	17.97	17.97	18.46	19.02	13.59	14.10	14.10	14.59	15.16
12H	4H	16.35	17.04	16.83	17.52	17.99	12.65	13.35	13.13	13.82	14.30
	6H	16.98	17.56	17.50	18.07	18.56	13.26	13.83	13.77	14.34	14.83
	8H	17.27	17.78	17.78	18.27	18.83	13.53	14.04	14.04	14.53	15.10