

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: P930046

Luminaire Tested: DFN2DS-HX2F0-020DS850-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930046
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-HX2F0-020DS850-RLL
Description: 2 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

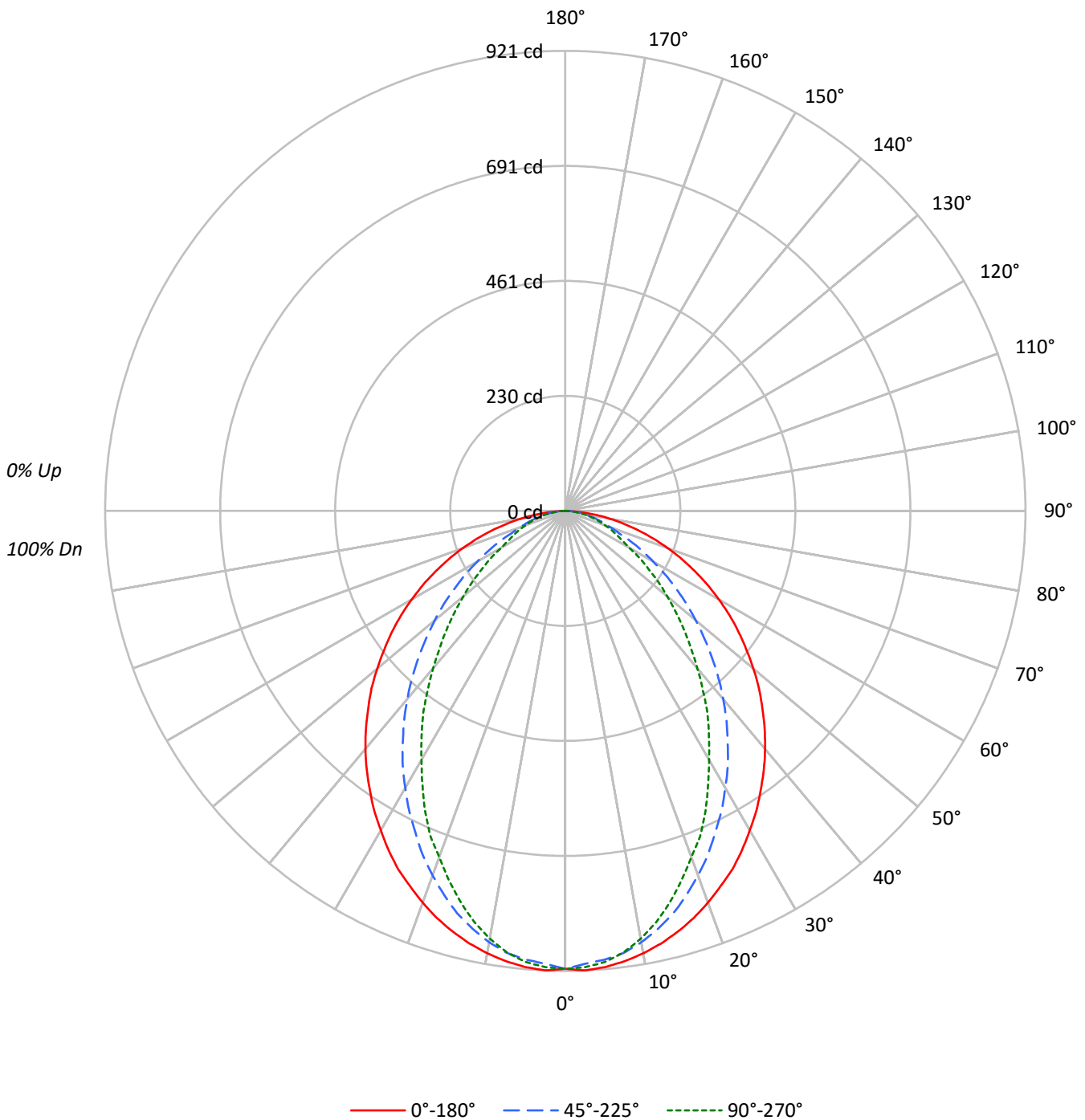
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1885.3 lumens
Efficiency: N/A
Efficacy: 107.1 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									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	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	100	100	99	99	99	95	93	91	92	90	88	86																
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86	84	82	80	78	76	74	72	70	68	66	64																	
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76	74	72	70	68	66	64	62	60	58	56	54	52																	
3	93	83	76	70	90	82	75	69	79	73	68	76	71	67	74	69	66	64	62	60	58	56	54	52	50	48	46	44	42																	
4	86	75	66	60	83	73	66	60	71	64	59	69	63	58	66	62	57	55	53	51	49	47	45	43	41	39	37	35	33																	
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49	47	45	43	41	39	37	35	33	31	29	27																	
6	74	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	43	41	39	37	35	33	31	29	27	25	23	21																	
7	68	56	47	42	67	55	47	42	53	46	41	52	46	41	51	45	41	39	37	35	33	31	29	27	25	23	21	19	17																	
8	64	51	43	38	62	51	43	37	49	42	37	48	42	37	47	41	37	35	33	31	29	27	25	23	21	19	17	15	13																	
9	60	47	39	34	59	47	39	34	46	39	34	44	38	34	44	38	34	32	30	28	26	24	22	20	18	16	14	12	10																	
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29	27	25	23	21	19	17	15	13	11	9	7																	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2160	2160	2160
5°	2168	2133	2144
10°	2152	2098	2080
15°	2127	2036	1977
20°	2092	1947	1849
25°	2058	1846	1725
30°	2009	1742	1566
35°	1961	1630	1427
40°	1913	1513	1265
45°	1858	1382	1119
50°	1800	1250	976
55°	1741	1107	838
60°	1673	958	696
65°	1596	805	634
70°	1502	663	583
75°	1389	604	544
80°	1227	540	495
85°	962	424	424

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1858 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.9	4.6
10°-20°	235.8	12.5
20°-30°	331.1	17.6
30°-40°	361.0	19.1
40°-50°	331.8	17.6
50°-60°	260.6	13.8
60°-70°	169.6	9.0
70°-80°	87.3	4.6
80°-90°	22.3	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°	652.9	34.6
0°-40°	1013.8	53.8
0°-60°	1606.2	85.2
0°-90°	1885.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1885.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	917	917	917	917	917	
5°	917	913	902	909	907	87
15°	872	863	834	819	811	246
25°	792	765	710	676	664	364
35°	682	640	567	514	496	427
45°	558	502	415	356	336	431
55°	424	359	270	220	204	379
65°	286	219	144	116	114	284
75°	153	94	66	61	60	161
85°	36	18	16	16	16	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	916.7	916.7	916.7	916.7	916.7
2.5°	920.8	916.7	907.5	915.9	914.3
5°	916.7	912.6	901.7	909.3	906.7
7.5°	909.3	904.3	892.6	896.0	891.7
10°	899.3	893.4	876.9	874.3	869.5
12.5°	886.9	879.3	856.9	852.0	842.8
15°	871.9	862.7	834.5	818.8	810.6
17.5°	854.5	841.2	806.4	788.1	774.9
20°	834.5	817.9	776.5	755.8	737.5
22.5°	813.0	793.9	745.8	717.6	705.2
25°	791.5	764.9	710.1	676.2	663.6
27.5°	765.8	737.5	676.9	637.9	618.8
30°	738.4	706.8	640.4	598.2	575.7
32.5°	711.8	673.6	605.6	555.8	535.1
35°	681.9	639.7	566.7	514.4	496.1
37.5°	652.9	607.2	530.1	472.9	452.1
40°	622.1	572.5	492.0	433.1	411.4
42.5°	590.7	537.6	453.8	392.4	371.7
45°	557.5	501.8	414.9	355.9	335.9
47.5°	526.0	467.1	377.5	318.5	300.3
50°	491.2	432.3	341.0	283.7	266.4
52.5°	457.0	394.8	306.1	251.4	235.7
55°	423.9	359.2	269.6	219.9	204.1
57.5°	389.9	323.5	237.3	190.9	177.6
60°	355.1	288.7	203.3	161.0	147.7
62.5°	321.1	254.7	174.2	134.4	127.8
65°	286.2	219.0	144.4	116.2	113.7
67.5°	253.1	185.8	116.2	102.0	99.6
70°	218.1	153.5	96.2	87.9	84.6
72.5°	185.0	123.5	80.4	73.9	72.2
75°	152.6	94.5	66.3	60.6	59.8
77.5°	120.3	67.2	52.2	48.9	47.2
80°	90.4	48.1	39.8	36.5	36.5
82.5°	63.0	32.4	27.4	25.7	25.7
85°	35.6	18.2	15.7	15.7	15.7
87.5°	13.3	6.7	6.7	5.8	5.8
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	13.91	15.43	14.27	15.74	16.06	9.87	11.40	10.24	11.71	12.02
	3H	15.67	17.04	16.05	17.37	17.73	11.14	12.50	11.52	12.83	13.19
	4H	16.34	17.62	16.74	17.97	18.35	11.64	12.92	12.04	13.27	13.65
	6H	16.83	18.01	17.24	18.38	18.77	12.02	13.20	12.43	13.57	13.96
	8H	17.00	18.12	17.42	18.51	18.91	12.14	13.27	12.57	13.66	14.06
	12H	17.10	18.18	17.53	18.56	18.99	12.22	13.30	12.66	13.69	14.11
4H	2H	14.01	15.29	14.41	15.64	16.02	10.57	11.85	10.97	12.20	12.58
	3H	15.95	17.01	16.36	17.41	17.81	12.01	13.07	12.42	13.47	13.87
	4H	16.70	17.65	17.13	18.07	18.51	12.61	13.57	13.04	13.98	14.42
	6H	17.29	18.12	17.75	18.56	19.02	13.10	13.93	13.56	14.37	14.83
	8H	17.50	18.28	17.97	18.72	19.19	13.26	14.04	13.72	14.48	14.95
	12H	17.66	18.35	18.14	18.83	19.30	13.38	14.07	13.86	14.55	15.02
8H	4H	16.72	17.50	17.18	17.94	18.41	12.96	13.74	13.43	14.19	14.65
	6H	17.36	18.00	17.85	18.49	18.97	13.55	14.19	14.05	14.68	15.16
	8H	17.61	18.18	18.12	18.69	19.18	13.77	14.35	14.28	14.86	15.34
	12H	17.81	18.32	18.32	18.81	19.38	13.95	14.46	14.46	14.95	15.52
12H	4H	16.70	17.40	17.19	17.88	18.35	13.01	13.70	13.49	14.18	14.65
	6H	17.34	17.92	17.85	18.43	18.91	13.61	14.19	14.13	14.70	15.19
	8H	17.62	18.13	18.13	18.62	19.19	13.89	14.40	14.40	14.89	15.45