

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: P913356

Luminaire Tested: DFN2DIP-HX2F0-030D030US927-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P913356
REPORT IS A COMBINATION OF REPORTS P899164 AND P896039
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX2F0-030D030US927-RLLFLL
Description: 2 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

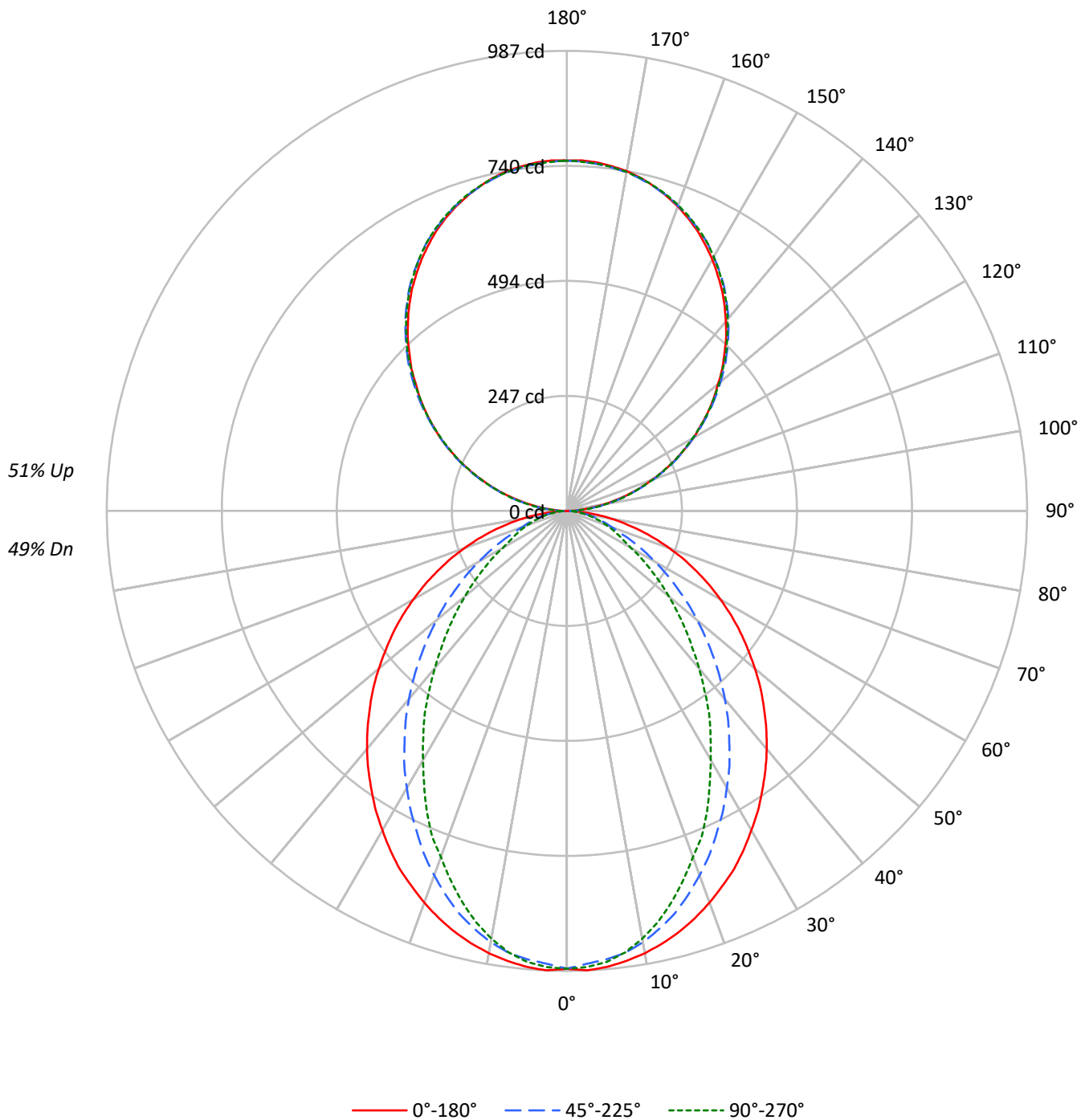
Lumens per Lamp: N/A
Luminaire Lumens: 4123.3 lumens
Efficiency: N/A
Efficacy: 87.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 1.99' x L: 2.3' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 47
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
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	30	10
RCR																	
0	107	107	107	107	99	99	99	99	83	83	83	68	68	68	55	55	55
1	98	94	90	87	90	87	84	81	73	71	69	61	59	58	50	49	48
2	90	83	77	72	82	76	71	67	65	61	58	54	51	49	44	42	41
3	82	73	66	60	75	68	61	57	58	53	49	48	45	42	40	37	35
4	75	65	57	51	69	60	54	48	51	46	42	43	40	36	36	33	31
5	69	58	50	44	64	54	47	42	46	41	37	39	35	32	32	29	27
6	64	52	44	39	59	49	42	37	42	36	32	35	31	28	30	26	24
7	59	47	40	34	55	44	37	32	38	33	29	32	28	25	27	24	22
8	55	43	36	30	51	40	33	29	35	29	26	30	26	23	25	22	20
9	51	39	32	27	47	37	30	26	32	27	23	27	23	20	23	20	18
10	48	36	29	24	44	34	28	23	30	24	21	25	21	19	22	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2314	2314	2314
5°	2314	2272	2288
10°	2288	2222	2209
15°	2252	2143	2090
20°	2207	2037	1946
25°	2161	1919	1806
30°	2100	1798	1631
35°	2040	1669	1477
40°	1978	1536	1301
45°	1908	1389	1142
50°	1834	1241	987
55°	1757	1084	838
60°	1667	921	686
65°	1564	755	613
70°	1439	601	548
75°	1280	519	491
80°	1054	420	413
85°	690	260	290

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1908 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.1	2.2
10°-20°	252.7	6.1
20°-30°	354.8	8.6
30°-40°	386.8	9.4
40°-50°	355.5	8.6
50°-60°	279.2	6.8
60°-70°	181.7	4.4
70°-80°	93.5	2.3
80°-90°	26.0	0.6
90°-100°	46.5	1.1
100°-110°	147.8	3.6
110°-120°	252.9	6.1
120°-130°	332.6	8.1
130°-140°	373.3	9.1
140°-150°	366.1	8.9
150°-160°	307.1	7.4
160°-170°	203.7	4.9
170°-180°	71.2	1.7
0°-30°	699.6	17.0
0°-40°	1086.3	26.3
0°-60°	1720.9	41.7
0°-90°	2022.2	49.0
90°-120°	447.2	10.8
90°-150°	1519.2	36.8
90°-180°	2101.0	51.0
0°-180°	4123.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	982	982	982	982	982	
5°	982	978	966	974	972	93
15°	934	924	894	877	868	263
25°	848	820	761	724	711	390
35°	731	685	607	551	532	457
45°	597	538	444	381	360	461
55°	454	385	289	236	219	406
65°	307	235	155	124	122	304
75°	164	101	71	65	64	173
85°	38	20	17	17	17	44
90°	1	8	22	21	22	4
95°	33	40	41	41	40	37
105°	136	138	140	141	141	144
115°	254	257	256	256	254	251
125°	369	375	373	371	370	330
135°	477	484	486	485	483	369
145°	580	584	588	588	586	362
155°	663	665	667	670	668	305
165°	721	720	720	725	722	203
175°	750	748	747	752	748	71
180°	752	752	752	752	752	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	982.2	982.2	982.2	982.2	982.2
2.5°	986.7	982.2	972.4	981.4	979.6
5°	982.2	977.8	966.2	974.2	971.5
7.5°	974.2	968.9	956.5	960.0	955.5
10°	963.5	957.4	939.6	936.8	931.6
12.5°	950.2	942.2	918.2	912.9	903.1
15°	934.2	924.4	894.2	877.3	868.5
17.5°	915.5	901.3	864.0	844.5	830.2
20°	894.2	876.4	831.9	809.8	790.2
22.5°	871.2	850.6	799.1	768.9	755.6
25°	848.0	819.5	760.9	724.4	711.1
27.5°	820.5	790.2	725.3	683.6	663.1
30°	791.2	757.3	686.2	641.0	616.9
32.5°	762.6	721.8	649.0	595.6	573.3
35°	730.7	685.3	607.1	551.1	531.6
37.5°	699.6	650.6	568.0	506.6	484.5
40°	666.7	613.4	527.1	464.0	440.9
42.5°	632.9	576.1	486.2	420.4	398.2
45°	597.4	537.7	444.5	381.3	360.0
47.5°	563.6	500.5	404.5	341.3	321.8
50°	526.2	463.1	365.4	304.0	285.3
52.5°	489.7	423.1	328.0	269.3	252.5
55°	454.2	384.8	288.8	235.6	218.7
57.5°	417.8	346.7	254.3	204.5	190.2
60°	380.4	309.3	217.8	172.5	158.3
62.5°	344.0	272.9	186.6	144.0	137.0
65°	306.7	234.6	154.6	124.5	121.8
67.5°	271.2	199.1	124.5	109.3	106.6
70°	233.8	164.5	103.1	94.2	90.6
72.5°	198.2	132.4	86.2	79.1	77.3
75°	163.5	101.3	71.1	64.9	64.0
77.5°	128.9	71.9	56.0	52.4	50.6
80°	96.9	51.6	42.6	39.1	39.1
82.5°	67.5	34.7	29.3	27.6	27.6
85°	38.2	19.5	16.9	16.9	16.9
87.5°	14.3	7.1	7.1	6.3	6.3
90°	0.7	8.2	22.2	20.8	21.5
92.5°	14.0	19.0	19.7	20.4	20.4
95°	33.1	39.5	40.6	40.6	39.5
97.5°	55.1	60.9	63.5	63.5	63.5
100°	80.4	85.6	87.5	87.5	86.8
102.5°	107.2	111.1	113.5	114.2	113.5
105°	136.4	138.2	139.6	140.7	140.7
107.5°	165.4	168.1	168.1	168.6	165.4
110°	193.5	197.2	197.2	197.2	195.4

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	223.9	227.8	227.0	225.2	223.9
115°	253.8	257.4	256.3	255.6	253.8
117.5°	283.4	288.4	285.3	283.4	281.6
120°	313.4	318.4	313.4	313.4	311.3
122.5°	340.6	346.9	343.7	341.9	340.6
125°	369.2	374.8	373.0	370.9	370.3
127.5°	397.0	404.0	401.6	398.8	397.0
130°	423.0	431.2	430.1	428.7	426.2
132.5°	452.3	458.6	459.1	455.9	454.1
135°	477.4	484.4	485.8	485.1	483.3
137.5°	505.5	511.2	512.3	511.9	509.1
140°	530.2	535.9	539.1	539.1	536.5
142.5°	555.6	561.3	563.1	563.8	561.3
145°	579.6	584.2	587.8	588.4	586.0
147.5°	601.2	606.8	609.5	610.7	608.2
150°	623.4	627.2	629.7	631.8	629.7
152.5°	643.1	646.9	650.1	652.6	650.1
155°	662.8	664.6	666.6	669.8	667.8
157.5°	679.8	681.1	682.3	686.8	683.7
160°	695.0	696.3	697.0	700.8	698.1
162.5°	709.0	709.0	709.7	714.0	710.8
165°	721.0	720.3	720.3	724.8	721.7
167.5°	731.9	729.8	729.8	734.4	731.2
170°	740.1	738.2	737.6	742.1	738.2
172.5°	745.7	743.9	743.2	747.7	743.9
175°	750.3	748.5	747.1	751.6	747.7
177.5°	752.7	750.9	749.6	753.4	749.6
180°	751.6	751.6	751.6	751.6	751.6

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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	9.83	10.66	10.81	11.64	12.93	5.82	6.64	6.79	7.62	8.91
	3H	11.49	12.22	12.47	13.21	14.52	6.99	7.72	7.97	8.71	10.02
	4H	12.08	12.77	13.07	13.77	15.08	7.43	8.12	8.42	9.11	10.43
	6H	12.48	13.12	13.48	14.12	15.45	7.73	8.37	8.74	9.37	10.70
	8H	12.59	13.20	13.61	14.22	15.54	7.81	8.42	8.83	9.44	10.76
	12H	12.64	13.22	13.66	14.23	15.58	7.85	8.43	8.87	9.44	10.79
4H	2H	9.85	10.54	10.85	11.54	12.85	6.40	7.09	7.40	8.09	9.40
	3H	11.65	12.23	12.66	13.25	14.58	7.73	8.30	8.74	9.33	10.66
	4H	12.32	12.85	13.34	13.86	15.22	8.26	8.79	9.28	9.80	11.16
	6H	12.81	13.26	13.84	14.30	15.65	8.66	9.11	9.69	10.15	11.50
	8H	12.97	13.39	14.00	14.43	15.79	8.78	9.20	9.81	10.23	11.60
	12H	13.05	13.43	14.10	14.48	15.85	8.83	9.22	9.88	10.26	11.63
8H	4H	12.28	12.71	13.31	13.74	15.10	8.52	8.95	9.55	9.98	11.34
	6H	12.82	13.17	13.87	14.24	15.61	9.02	9.37	10.07	10.44	11.80
	8H	13.02	13.33	14.08	14.39	15.77	9.20	9.50	10.26	10.56	11.94
	12H	13.14	13.41	14.21	14.47	15.89	9.30	9.57	10.37	10.62	12.05
12H	4H	12.23	12.62	13.28	13.66	15.03	8.52	8.91	9.57	9.95	11.32
	6H	12.79	13.10	13.86	14.16	15.54	9.06	9.37	10.12	10.43	11.81
	8H	13.00	13.27	14.06	14.32	15.75	9.26	9.53	10.32	10.58	12.00